AUGUST 1959

THE Airman

OFFICIAL JOURNAL OF THE AIR FORCE

TODAY'S MISSILE TRAINING OPPORTUNITIES—page 26.

This copy of THE AIRMAN is intended for 10 readers. Read and enjoy it. Then pass it on.

THE Airman

OFFICIAL JOURNAL OF THE AIR FORCE

VOL. III, NO. 8 AUGUST 1959

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LETTERS TO THE EDITOR

MEMORIALIZATION

Sir: *I would like to clarify the answer given to Sergeant Williamson's letter in the April issue. While correct, the reply was somewhat misleading with respect to names which may be considered for memorialization honors. The local commander is authorized to memorialize permanent type buildings, streets, and recreational facilities within his installation; however, paragraph 3, AFR 900-9, provides that these honors shall be given only to the names of deceased Air Force members, including personnel assigned to air components of the United States Army prior to the establishment of USAF. You noted, in the same answer referred to above, that only Hunter AFB, Ga., was named for a living man. As a matter of information, in 1926, the municipal airport which occupied the location that is now the air base, was named Hunter Field by officials of the city of Savannah in honor of then 1st Lt. Frank O. D. Hunter. In deference to their wishes, this name was retained when the installation became Air Force property.*

Lt. Col. Ross D. Norton
Washington, D. C.

★ ★ ★

WHERE CREDIT'S DUE

Sir: *I have just completed the article* Tall Texan *in the April issue. Certainly, Sergeant Jennings is due all the credit indicated; however, I think that Maj. Donald W. Ringley should also have been mentioned for his contribution to the program's success. At the time the farm was started, Major Ringley was assigned to the Clark AFB, P. I., Veterinary Section, and his assistance in the control of poultry diseases was most instrumental in the overall success of this most worthy project.*

TSgt. Victor Frank
Lackland AFB, Tex.

We are most happy to acknowledge the role played by Major Ringley.

Sir: *I guess there is a nitpicker in every crowd. I would like to correct your cover story on page 3 of the April issue. You say that the name* Mach-in-Boid *was given to*

(Continued on page 38)

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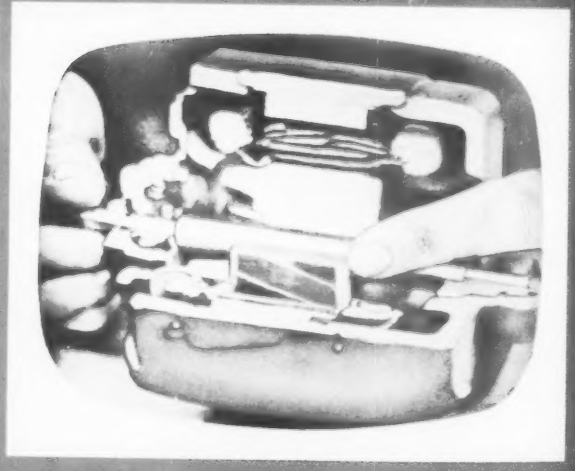
Venio, Video,

by TSgt. Harold L. Craven

Photos by SSgt. William Hokanson



Vinco

The Latin phrase meaning "I come, I see, I conquer" describes the experiences of an airman who learns technical skills via television. Video classes at Lowry Technical Training Center are popular with students and instructors alike.

WHEN A/2C Robert A. Wilson speaks, master sergeants and basic airmen alike pay close attention. He speaks three hours a day, five days a week, as an instructor in the Bomb Navigation Systems Mechanics Course ABR 32130E at Lowry AFB, Colo.

Wilson is not a great orator. He doesn't wave his arms, tell funny stories, shout, or fire blank cartridges to hold students' attention. He merely rehearses each lesson thoroughly, uses good teaching techniques, and delivers his instruction to a pair of television cameras. His students, seated in TV-equipped classrooms in another building, gaze at his image intently, unaware that he is working from a script or that he is being assisted by an even half dozen studio and control room personnel.

All the video instructors at Lowry are convinced that television is the most effective training tool ever used by Air Training Command. Although TV instruction is presently available only to a portion of the students enrolled in a single course, Wilson and his associates believe it will eventually be used in all Air Force technical schools. They base this opinion on their observation that students of TV classes at Lowry learn faster and more thoroughly than students in conventionally taught classes.

Initially video instruction was looked upon at Lowry mainly as a means of getting the most value from each qualified instructor's efforts. Because of frequent discharges and transfers only one-fifth of the teaching staff, at any given time, could be rated as fully qualified. Use of TV, it was believed, would allow the qualified 20 percent to do 100 percent of the teaching. Meanwhile, semi-qualified instructors could learn effective teaching methods and become more familiar with course materials by serving as classroom proctors and viewing, with their students, the work of experienced teaching personnel.

Preliminary planning for Lowry TTC-TV (Technical Training Center Television) started in May 1957. Because there were no television-experienced airmen or civilian employees available at the base, ground photo personnel with electronics background were selected for assignment as TV cameramen and radar maintenance personnel were designated as TV technicians.

Lowry officials, instructors, and newly appointed staff members read every reference book and report they could find. They visited various equipment manufacturers and operating television installations and attended significant seminars, conferences, and conventions. An engineering consultant and a production consultant were employed to provide guidance and training, and arrangements were made with the management of Denver's educational station, KRMA-TV, for in-station training of TTC-TV personnel.

According to Mr. Donald O. Van Gilder, course materials director at Lowry TTC-TV, a decision was made to approach TV training from a production standpoint, with full use of all studio techniques including close-ups, fades, superimpositions, audio effects, zoom lenses, dollying, panning, and special lighting effects.

"We were convinced that so-called minimal television techniques, where a camera is merely placed in front of a classroom teacher's desk, and used to televise standard classroom teaching, would be no more than amplified boredom," he told THE AIRMAN recently. He said minimal television could expand the audience but would be wasteful of TV's ability to capture and hold student attention.

Studio planning was a joint effort of instructors and engineering personnel, rather than engineering personnel alone, so that the best possible approaches to effective lesson presentation could be used. By August 1958 the equipment was installed and the first televised instruction got underway.

Prior to rehearsal of a new lesson script SSgt. Robert J. Gregg, director, A/2C Donald E. Wilkinson, floor manager, and TV instructor A/2C Robert A. Wilson (holding script) conduct a dry run on a studio layout board.

Two or more rehearsals precede delivery of new lesson material to students. The director controls the movements of floor manager and cameramen by voice communication from an adjoining control room.

Coaxial Cable Transmission

There are two forms of television transmission, *broadcast* and *closed circuit*. Broadcast TV, the form familiar to every *Gunsmoke* fan, requires allocation of channels by the Federal Communications Commission and may be viewed by any TV set owner within range of broadcasting facilities. The closed circuit TV installed at Lowry requires no FCC channel authorization, uses coaxial cables instead of the airwaves, and can be seen only on classroom TV monitors tied into the system. Since the course being televised at Lowry includes classified information, only closed circuit telecasting is practicable.

Every scene on Lowry TTC-TV, filmed or "live," is of proper brilliance, tonal range, and contrast. Transmittal of a video image by cable instead of through the air eliminates most annoyances familiar to home TV viewers, including ghost images, airplane flutter, and automobile ignition interference. Additionally, the TV monitors used in Lowry classrooms are capable of producing a picture far superior to that provided by the most expensive home receiver.

Educational television is not new. Some 120 institutions of higher learning, including the Air University's Command and General Staff College and the U. S. Air Force, Military, and Naval Academies, are equipped for video instruction. As of February of this year, when Lowry's first TV-taught class was graduated, 569 school systems below the college level were making use of TV as a teaching tool. Many commercial television stations devote part of their schedules to educational programs, including college courses for credit, and more than 40 TV stations have been licensed by the FCC for the sole purpose of telecasting educational programs. Other such stations are now under construction or in the planning stages. Educators have found that nearly every subject that can be taught by a local instructor can be taught more rapidly, more thoroughly, and more economically by television.

Lowry's technical training project is unique in that it is the first attempt to teach all of a highly-complex technical course by closed circuit television. The course selected covers basic electronic fundamentals through systems trouble shooting of an electro-mechanical computer, has a student entry that ranges from basic airmen to master sergeant retrainees, and is 24 weeks in length. It is representative of the complex type of training the Air Force provides and was therefore selected as an ideal proving ground for television instruction.

For comparison purposes the original classes were organized into 15-man groups and matched, according to electronic aptitude test scores and other criteria, with similar groups in controlled conventional classes. Each group was given three hours of direct instruction and three hours of laboratory practice per day for the entire 24-week period. Despite the fact that studio personnel and TV instructors had little experience in the use of television, their students learned more rapidly than students in the control groups. Video classes that followed did better still as TTC-TV personnel gained experience.

Top Quality Instruction

Instructor supervisors cite a number of reasons why video teaching is superior to classroom teaching.

Supervision of instructors is easier because there are fewer instructors to supervise. The work of a TV instructor can be observed at any time by merely switching on a television monitor.

Television permits maximum use of the best instructors available and standardizes the instruction at the highest level. Because television makes good instruction appear better and emphasizes any teaching faults an instructor might possess, these instructors are highly interested in becoming even more proficient.

Self-improvement is relatively easy. Because each televised lesson is a team effort, involving a video control operator, a director, two cameramen, a film operator, a floor manager, and the instructor, rehearsals are necessary before each presentation. Otherwise all would be chaos. Currently all members of the studio and control room crews at Lowry are qualified or partially qualified instructors who participate in lesson planning and script writing and revision. Each lesson is rehearsed at least twice, thus permitting the instructor to

Instead of teaching his students directly Airman Wilson performs before a pair of television cameras.

achieve a high degree of polish. If there are any flaws in the script, the production techniques, or the instructor's appearance, mannerisms, or pronunciation, chances are good that they will be corrected during the rehearsals.

Because the instructor works from a prepared script or lesson plan he cannot digress from the subject as many teachers occasionally do in the privacy of their classrooms. Thus he does not inadvertently omit parts of the instruction.

If he wishes he may have all or part of a lesson kinescoped and played back to him later. Kinescope films allow each instructor to be his own severest critic. And no one is more critical of himself than a person watching himself on television. While analyzing the quality of his work from a student's viewpoint the instructor can look for ways to improve production techniques as well. Chances are good, however, that one or more members of the production staff will also be viewing the film, similarly using hind-sight as a method of improving future presentations of the same lesson.

The job of the production staff is to make the instructor look good and show all instructional materials, including equipment and training aids, to best advantage. The floor manager prepares the studio and arranges for graphics and training aids prior to class time and is the instructor's off-camera assistant during the class. The director, video control operator, and cameramen work continuously to provide visual variety and proper sound and lighting effects. The film room operator keeps slides and training films instantly available for use during the lesson. Classroom proctors relieve the instructor of administrative and testing duties, thus allowing him more time to concentrate on improving his teaching methods.

Filmed Sequences Effective

Use of films to supplement instruction is more effective on television than in conventional classroom teaching situations. No time is lost setting up, threading, and disassembling of projection equipment. A 15-minute training film can be shown in exactly 15 minutes. Filmed scenes shown on Lowry's television monitors have unusual depth and clarity because of the high picture quality inherent in closed circuit television and the fact that they are viewed by transmitted light rather than reflected light. Students seldom become sleepy during televised film sequences because two sleep-inducing factors, the darkened viewing room and hypnotic sound of the projector mechanism are absent. In-focus presentation is assured because only qualified persons handle films and equipment.

Television is an excellent aid to demonstration because it permits close-up views of minute parts of equipment and allows simultaneous demonstration of equipment and procedures to all students. It eliminates the necessity of demonstrating to pairs of students while other students stand by awaiting their turn. Instead of repeating the same operation several times, as a classroom teacher must, the TV instructor can perform several different demonstrations.

Two Video Channels

In order to further facilitate demonstration, Lowry TTC-TV provides a second video channel. Each class has before it two TV monitors. One is used continuously and the other occasionally. When an instructor wants to show an electronic device and its schematic or wiring diagram at the same time, or a close-up of a small part along with a broader view to orient the small part with the entire item of equipment, the second screen is put into use. This is an improvement over the usual split-screen technique used in commercial telecasting in that it eliminates the need for reducing the size of the image and the two separate views do not have to be repositioned to fit into half the picture area.

Use of professionally prepared graphics, rather than blackboard illustrations, also helps make television superior to local teaching. It eliminates the instructor's drawing ability, or lack of it, as a training factor, and he does not have to use class time to draw diagrams on a blackboard.

Television offers economies in the number of graphics, demonstrators, and other training aids used. In conventional instruction one or more of each training aid is needed for each classroom. With television only

Students, seated in classrooms in another building, have two high quality TV monitors before them at all times.

one of each item is needed. Furthermore the TV teacher can often use the genuine article instead of a costly oversize mockup that doesn't actually work. A tiny test meter, for example, can be enlarged to full screen size and shown to an unlimited number of students while it is actually in operation.

Students Prefer Television

Students like learning by television. They are more attentive than non-TV students and find learning less tiring. Several airmen who were transferred from televised to conventional classes, due to emergency leaves, illness, and washbacks, expressed an eagerness to do anything necessary to get back into TV classes.

Most students consider the TV instructors to be celebrities. Perhaps this is a carryover from commercial television. Whatever the reason, it is advantageous to training. The instructors realize this and do their best to live up to their new status.

Eye contact between instructor and student is strictly a one-way proposition, but it is nonetheless effective. All the TV instructor has to do is look directly at the camera lens and each student gets the illusion that he is being taught personally. No such illusion exists in a conventional classroom where the instructor can only look directly at one student at a time.

Because the human eye instinctively focuses upon moving objects, the TV screen, with its brilliance and frequent changes as cameras are switched, requires real determination on the part of any student who might want to ignore it. The monitor screen that holds his close attention shows him only what the instructor wants him to see, and he is therefore not distracted by training aids which the instructor may have on hand for use later in the lesson.

The super-attentive TV students have a lower washback rate than their conventionally taught counterparts, despite the fact that they cover more material than is actually required by Air Force job training standards. This is possible due to the cumulative time savings possible with television. It is probable that the televised course will eventually be reduced in length in order to get technicians on the job earlier in their careers.

Objections to Television

Although its proponents say that television instruction is a breakthrough in education and training comparable to the transportation breakthrough achieved by the Wright brothers at Kitty Hawk, there are those who are not yet convinced of its potential. The two most frequent objections are that a studio instructor, physically separated from his students, is unable to pace himself according to the interests, purposes, and abilities of his students; and that the pupils are denied the opportunity to ask questions.

Neither objection is applicable to the Lowry project. Neither would apply to any other Air Force technical course that might eventually be televised.

The interests and purposes of bomb navigation systems mechanics are rather clearly defined. They want to learn how to maintain and repair bomb navigation systems. As for their abilities, all the students have passed the required aptitude tests before being selected for the training.

Lowry TTC-TV has a question-and-answer audio system, but it is neither as helpful or as necessary as previously supposed.

The percentage of students who use the question-and-answer system is small. Among that small percentage are a few airmen who ask so many questions that they annoy their classmates. In at least one instance a TV instructor was petitioned by a group of students to turn the system off because one student, who apparently liked the sound of his own voice, asked a question every five minutes and thus interfered with the learning of the group.

A careful analysis of all questions asked by students to date indicates that about 70 percent were anticipatory and would have been answered in a minute or two; another 20 percent were irrelevant to the topic and disrupted the orderly development of the instructions; only 10 percent were relevant and served to point up deficiencies in the script. The scripts were corrected accordingly. Present opinion at Lowry is that the question-and-answer system should be used the first time a new course is taught, to permit necessary script improvement, then turned off for subsequent classes.

In the TV film room, A/2C Orville Werner makes a kinescope recording of the lesson for critical review by Wilson and his associates.

Donald O. Van Gilder, course materials director, visits TTC-TV graphics department to discuss with Miss Rose Goranflo, professional illustrator, training aid requirements for future class sessions.

Troubleshooting Instruction

The audio system is, however, an aid to troubleshooting instruction. Prior to class the video instructor inserts malfunctions into training equipment in the studio. During the class period the students are shown how the equipment behaves and asked to direct troubleshooting by means of the audio system. The instructor guides their activities by asking questions and summarizing results. His hands, on the TV screen, are extensions of theirs, and the students get a real feeling of accomplishment when they finally isolate and correct the trouble. Following the televised instruction they go to their laboratory sessions and practice what they have learned. Every activity they are required to carry out in the laboratory is first demonstrated on TV. Because TV permits many more demonstrations in a given period of time the students enter the laboratories with much more confidence than students taught in the conventional manner. This confidence goes with them when they report to operational units after graduation.

Graduates sometimes write their instructors to thank them for the quality of instruction given and to express the hope that advanced courses will be taught by television by the time they are ready to return to Lowry for further training. A number of supervisors in the field have commented favorably on the quantity of technical know-how and the self-assurance possessed by TV class graduates.

As a result of their personal observations and experiences and their knowledge of the experiences of others in the field of TV teaching, Lowry instructors confidently predict that eventually all Air Force formal training will be televised. They believe that this will result in at least a 20 percent reduction in training time without reduction of graduate quality. If this is achieved a tremendous gain in the number of trained personnel available for assignment to productive Air Force jobs should be realized.

While it is certain that the Air Force will expand its use of technical training television it is too early to say what forms this expansion will take, how rapidly it will occur, or how much it will affect training programs at the local level.

It is likely that closed circuit television will eventually be installed at major USAF bases and that kinescopes and video tape recordings of technical school courses will be available at the local level. Smaller installations, including missile sites and isolated Arctic radar outposts, could use the kinescope films on 16-millimeter sound motion picture projectors. Commanders would then be able to establish local training programs in shortage skills.

Locally televised instruction would be exactly the same as televised instruction at the technical school bases, but on-the-job training with an operational organization would replace technical school laboratory sessions. This would result in higher student morale and motivation because a sense of actual participation in the Air Force mission would exist. Upon completion of the televised instruction a graduate would be familiar with local equipment, policies, procedures, and requirements. He would know his supervisors and they would know him, and he could be fitted into a full-time duty assignment immediately without the usual transition period between tech school graduation and full productivity.

From the individual airman's viewpoint, local video instruction would permit earlier qualifications for upgrading and promotion. He could cross-train into a related or, if need be, an unrelated skill without the inconvenience of a transfer to a distant ATC base. Formal instruction in higher skill levels could be made available to him regardless of whether he were assigned stateside or overseas.

Air Reserve, Air National Guard, and Civil Air Patrol training programs could also be greatly enhanced by use of technical course kinescopes.

The full extent of technical training television's capabilities is not yet known. Although it is a comparatively recent development in the ancient profession of teaching it has, in the space of a single year, proved to be superior to all other forms of instruction yet tried by the Air Force. As a result it can be said with certainty that a revolution in Air Force training is at hand.

Ten years from now some pilots and aircrews will be alive because five ARDC test-parachutists risk their lives to prove Air Force flying equipment the best in the world.

THEY JUMP FOR YOUR LIFE

SIXTY seconds before "jump time" one of the four test-parachutists gets up from his steel bucket seat to stand by the open door of the C-54 flying at 10,000 feet over water near Eglin AFB, Fla.

The jumpmaster, Capt. Billy Mills, makes a complete check of the man's bailout equipment. At the same time the three other parachutists prepare themselves for later jumps.

First to jump will be George Post, a master sergeant who once volunteered and was ejected downward from a B-47 *Stratojet*. Following him soon will be Al Kearney, a sergeant who has risked his life a hundred times in various hazardous occupations. Bruce Barwise, an ex-Navy underwater demolition expert who during WW II helped blow up Japanese installations off Saipan, Tinian, and Okinawa will jump still later. So will MSgt. William Barbour, a former combat infantryman and Korean conflict veteran.

"Minus ten seconds," signals the jumpmaster. He has started the first jumper's stopwatch and inspected the altimeter attached to the man's chest reserve. A minute ago the jumpmaster activated the parachutist's oxygen bailout bottle.

"Five . . . four . . . three . . . two . . . one . . ." hand signals the jumpmaster. He taps the 'chutist on the leg. The parachutist spills out the door and tumbles into space. He free falls 200 feet per second towards the water below. Twenty seconds later, at about 6,000 feet, his 'chute begins to unfurl into a large orange and white blossom. He drifts towards the coral water while a crash boat cuts white, foamy wakes to meet him.

A helper on the crash boat looks up at the orbiting aircraft and rapidly descending jumper. "Who are those guys?" he asks the skipper. "Guys with guts," answers the crash boat captain.

This scene, repeated almost monthly at Florida, Lake Erie, Wright-Patterson AFB, and sometimes Holloman AFB is all in a day's work for the captain and four men of the Aircrew Equipment Section, Aircrew Effectiveness Branch at Wright-Patterson AFB.

The work that led to today's jump started two weeks ago when a lieutenant colonel from Air Research and Development Command called Captain Mills, chief of the test-parachutists and a project engineer at the Wright Aero-Medical Laboratory.

The phone call was urgent.

Suspected problems had cropped up with bailout and survival equipment planned for the B-52G ejection system. What was requested of the Aircrew Equipment Section? Find out if anything was really wrong.

Soon the five 'chutists began ground-checking the harness, backpack and survival kit. All parts of the complicated ejection system worked fine on the ground. How they operated under real emergency conditions now had to be known.

The jump team decided they would wear the equipment, bail out of an aircraft, and check for malfunctions and other difficulties as they free fell through space before opening their canopies.

An over water jump, it was decided, was safest for this type mission. The impact area—where the men would land in the water—was selected by the jumpmaster.

by 1st Lt. Brian T. Sheehan ***Airman Staff***

Weather reports were screened and Florida selected as the jump site. Air Rescue Service at Eglin AFB was alerted. So were all other air, ground and sea units necessary to the mission's success. Complete photographic coverage, for later review and study, was scheduled.

Jumpers were briefed several times before taking off in the C-54. Minutes before the first parachutist was to jump last second weather calculations were made. This information was coordinated.

"I checked the ballistic trajectory, descent time, individual's weight, wind speed, and type and weight of equipment worn before a man left the aircraft," Captain Mills said. "They all landed within an eighth of a mile of the 'impact' area."

Each 'chutist was quickly plucked from the water by crash boat crews then returned to Eglin for immediate debriefing. They reported separately. Each told his position during free fall and how the equipment worked, or malfunctioned.

"A peculiar thing happened to me," one jumper commented. "I started spinning during free fall. I stuck out my left leg and then it stopped," he said. Others told of different reactions. Later, a report written by Captain Mills was submitted to the Aero-Medical Laboratory and the test results were announced.

Equipment included in the B-52G ejection system was completely satisfactory. For the test parachutists, another "routine" job was done.

But, what may seem like just another job to the parachutists is far from normal as far as most Air Force personnel are concerned. Integration of personal equipment items to airmen's needs is important to aircrew safety, but the price is calculated risk. Danger, however, means little to these men.

Take TSgt. Alan Kearney, for example, who has jammed more excitement in his 38 years than most men do in a lifetime.

Al took part in five, three month patrols in the South Pacific as a combat crew member of the submarine *Grouper* during WW II. He's seen more than his share of action. "We were half-submerged once when a Japanese destroyer came steaming out of a fog bank and could have sunk us," he recalled. "The Japanese captain was as scared as we were because he turned his ship around and ran."

After a Navy hitch Al worked as a high-rigger 260 feet above the ground on Texas oil derricks and rejoined the Navy during the Korean conflict. As an underwater demolition team expert he one night swam ashore behind North Korean enemy lines and sabotaged Communist military installations.

He did other odd jobs during the Korean conflict too. Before the reinvasion of Inchon in 1950, two Navy vessels were sunk by submerged mines in the harbor. Al and other demolition experts swam into the dangerous mine field and dearmed the lethal weapons.

He switched his interest from water to air in 1952 when he joined the Air Force. He worked on crash boats for a short while, was next assigned to Wright-Patterson AFB, because of his personal equipment know-how.

While working in the Aircrew Effectiveness Branch

Ready for equipment test jump is MSgt. George Post, right, most experienced test-parachutist in the Air Force. He has recorded more than 200 bailouts, including downward ejections from the B-47 Stratojet.

Overwater jumps, shown in far right picture, are safer than bailing out over land. Here a 'chutist gathers his equipment while waiting to be picked up.

a colonel took the sergeant to Randolph AFB, Tex., to help explain new bailout equipment. The colonel became sick during the trip and was unable to brief. Al had to speak. Two generals were in the audience.

"I talked for a full hour about how good all this equipment was," he said. "Then it struck me. What could I say if someone asked me if I ever jumped with the gear? How could I know it was good if I never used it?"

A few weeks later Al Kearney was in the Army paratroop school at Ft. Benning, Ga., and in six weeks was wearing a jumper's badge. Now, he has made 40 high- and low-altitude bailouts. And he's had a brush or two with death.

"I free fell 15 seconds once," he said, "and when I started to pull the rip cord I was flipped on my back through my own movement."

Moments later his parachute opened directly beneath him and he mushed into the billowing, twisting silk. He frantically pushed the silk away. Finally air began to fill it and the 'chute opened.

"Those were the longest two or three seconds of my life," he said.

Like Kearney, Capt. Billy Mills is somewhat of a rarity among men. He has given up everything he studied to be something else. Billy graduated from Western Kentucky University in 1952 with a degree in biology and was assigned to Wright-Patterson AFB as a bacteriologist.

Billy became fascinated by test-jumping, went to paratroop school and became an Air Force 'chutist. In 1953 and 1954 he test jumped most of the survival gear, helmets and parachutes now considered standard personal equipment items.

Today, he has 65 jumps on record and is the only man of the original four-man section now back at Wright-Patterson. He took two years away from jumping to attend flying school, and is a qualified all-weather jet interceptor pilot.

Recently Billy smashed his leg during a test jump. He's been grounded from jumping by the flight surgeon ever since and misses his favorite Air Force profession.

If you compared little William Barbour, the Master Sergeant and test parachutist with 14 years' service to any other jumper you would think he was "Jeff" of "Mutt and Jeff." He is a shade taller than five feet.

"Barbour is so light," one 'chutist joked, "you never know if he is going to come down or go up when he leaves the airplane."

Test jumping for Barbour, like for every man in the Equipment Section, is his second job. His primary duty is helmet and oxygen mask task engineer.

Before entering the Air Force Bill served with the Army, did a stint with a tactical reconnaissance squadron during the Korean conflict and then wound up in Army jump school in 1958. He's now mastering the difficult techniques of test-parachuting.

"Anytime an equipment complaint is registered by a small pilot or aircrewman I usually wind up working on the job," he said. Recently he test-jumped the MD-1 exposure suit as well as new survival gear and helmet configurations.

"My big advantage as a jumper is my size," said Bill. "I don't hit the ground as hard as those big boys!"

Tallest jumper is Bruce Barwise, a six-foot two-inch Airman First Class who recently joined the organization after serving with the 48th ARS at Eglin AFB, Fla.

He thinks he has the most interesting job in the Air Force. "I never know what project I'll be working on next," he said. "It's the unexpectedness of the business I like."

Bruce graduated from Ft. Benning jump school in June, 1957, and is also a graduate of the six-week paramedics course at Gunter AFB, Ala.

When he first began jumping his wife didn't feel his new job was quite the safest occupation in the world. "She used to worry about me all the time," he said. Then he had an idea. One day he had a friend take his wife to the area where he was going to bail out.

"She saw how easy it was," he related, "and now is my most enthusiastic supporter."

The most experienced jumper of the group is George Post, a master sergeant who serves, besides jumping, as one of the Aero Med. Lab's project engineers for restraint devices, ejection seats and 'chutes. He entered the Air Force in 1942 and became a parachute rigger at Howard Field, Panama. From rigging 'chutes he developed an interest in jumping, and decided he had to try his hand at it.

"One morning I picked out the fourth parachute I ever rigged and climbed aboard an airplane," recalled the sergeant. "I didn't know the first thing about using a parachute but I wanted to learn."

As the aircraft flew over Howard Field, George jumped out, pulled the rip cord and began floating towards the runway. As he came close to the ground he became paralyzed with fear.

"I was going to land right on top of the hangar," he said. An unexpected breeze lifted him over the hangar roof by inches and he plowed into the ground, bounced twice and finally stopped.

Since that first jump George Post has become the most expert of all Air Force test-parachutists. He has over 211 jumps on record, including downward ejections from the navigator's seat of the B-47 *Stratojet*. For his part in the high-altitude downward ejection seat tests he received the Distinguished Flying Cross.

That, however, wasn't Post's first downward leap into space. In 1950 he was dropped out of the bottom of a B-17 from 25,000 feet. "I sat in a steel chair held in place by a cross bar," he said. "Someone pulled the bar from under the chair and I fell, sitting in an upright position." He kicked away the chair, free fell a long way and opened his 'chute.

Today, Post is a firm believer in ejection systems. "I would rather be ejected from an aircraft any day of the week than bail out," he admitted.

Like the others, he has in the past primarily worked on the "integration" problems of fitting equipment to meet flyers' requirements. This means he checks the "human factors" relation between man and personal equipment, then makes recommendations that will give 20th Century airmen maximum flight protection with maximum comfort.

Such happened recently when he and three others made spectacular parachute jumps from high over White Sands Missile Range in New Mexico to test brand new Air Force space flight equipment.

From three miles up, Post and Kearney, with two other 'chutists, jumped out of a C-54 and free fell for 25 seconds before opening their 'chutes.

One jumper, a former team member, who once soared to 96,000 feet in a balloon for a world's record, test-jumped the new high-altitude, fully pressurized space suit which will be used by the X-15 pilot during his forthcoming flight into space.

Parachutists jump with as much as 120 lbs. of survival equipment, exposure suits, and other gear strapped to them.

Some jumps, bottom left picture, are made from C-119s while others are scheduled in C-54s and C-47s.

Two test parachutists at the Aircrew Effectiveness Branch are MSgt. William Barbour, left, and TSgt. Al Kearney.

The captain, unlike the others, opened his 'chute at 14,000 feet to test the exact profile that would be followed in an emergency escape from the X-15.

This jump specifically tested space flight equipment, which, in the near future, will be put to practical use.

From jumps like these Air Force pilots and crewmen gain a certain confident feeling about the equipment they strap on their backs before they fly. They know it will work because it was *actually* tested by someone before them.

As one cargo pilot put it, "If some boys, who aren't necessarily flyers, will go and jump out of airplanes to prove that my parachute will work when I need it I'll go by what they say." Navigators, ECM operators and other aircrewmen echo the pilot's words.

But, flying wasn't always so demanding that airmen had to put all their faith in new and fancy escape devices.

When man first began boring holes in the sky he only needed a pair of goggles, a scarf and a jacket. This equipment gave him satisfactory protection from the elements.

But, as aircraft became more complicated man had to prepare himself to meet the increased demands of flight. He began wearing oxygen masks for high altitude flights, parachutes for safety and exposure suits for protection.

Year after year equipment got heavier and more cumbersome. Today's pilot, for example, may fly over polar ice caps, vast oceans, jungles and deserts. And he must be prepared for any emergency that might occur.

If he wears all his equipment he has 120 pounds of parachutes, survival kits, boots, parkas, exposure suits, and other gadgets tacked to his body.

Fatigue from this weight sets in early on long flights.

To combat this fatigue problem, the Equipment Section, headed by Ronald S. Huey, an Air Force National Guard commander and former personal equipment officer, is planning ahead to the time when the pilot, in effect, will be once again wearing the summer flight suit.

To do this his section is divided into four units. One deals with the integration of headgear to the man in the cockpit. Another concerns the integration of clothing to the pilot. A third unit studies restraint and escape devices, while the last deals with survival kit integration.

Each test-parachutist is a project engineer for one of these units.

"All personal flying gear must fit a man properly, give him safety, and help him perform his mission satisfactorily," said the civilian section chief. "If the equipment doesn't do the job then we find out why."

Last year the section made 160 test jumps. Many of these bailouts were to prove or disprove claims that some equipment items were unsatisfactory under varying circumstances. Other jumps were in the name of research and development.

Scientists, Air Force personnel and others at the Wright Aero-Medical Laboratory know that there isn't

Showing some of the equipment he has test-jumped is Capt. Billy Mills, left, chief of the test-parachutists and project engineer at the Wright Aero-Medical Laboratory.

Adjusting equipment in mock-up model of an ejection capsule is A/1C Bruce Barwise. In-the-water tests for the capsule are planned at Key West, Fla., in the future.

much more that can be added to the already-burdened back of a supersonic pilot. And so they've developed a way of putting him back in the much longed for days of the "summer flying suit."

How is this done? Simple. Take the gear off the man and build it into an ejection capsule which will be ejected from the aircraft during an emergency.

Two United States corporations, in conjunction with ARDC, have developed "ejection capsules" which will someday be placed in Air Force aircraft. One capsule is scheduled to go into the B-58 *Hustler* models while others are planned for the B-70 and F-108.

But, before these capsules become everyday realities in operational aircraft they will have to be integrated to man's flying and survival needs. This job will most likely fall to the Aircrew Equipment Section.

Recently, MSgt. George Post spent 72 hours sealed in a floating model-capsule in a laboratory at Wright-Patterson AFB. He underwent this isolation and confinement test to see how a man would react if downed at sea in an ejection capsule.

The small enclosure, barely large enough for the six-footer, bobbed around in the pool. Difficult problems were given Post to solve during the research project.

He was told to fire flares at certain times and had to use a tiny radio for transmitting minutes later. He was exposed to glaring lights, heat and cold. The building lights were turned off during the evening to simulate night.

"Almost all my personal flying gear was built into the capsule," Post said, "and this made my adventure more pleasant. If I had all the usual stuff hanging from me I wouldn't have been able to last."

One of the most difficult parts of this test, Post said, was keeping relaxed and clearheaded. "I bought 10 cigars to smoke," he said, "and after getting inside realized I couldn't light them. Little things like this shake you up."

Now, and in the near future, numerous tests are planned for ejection capsules like the one in which Sergeant Post was isolated. Some member of the Equipment Section will probably test the human factors side of the research project.

Two test-parachutists, for example, are going to accompany the capsule to Key West, Fla., during the fall, for outdoor water experiments much like those which took place indoors at the Wright Air Development Center.

After that, at a date unannounced, the capsule will be ejected from an aircraft flying at supersonic speeds at high altitudes over different terrains. A plastic dummy will ride the capsule on these initial tests. Ultimately, a man will have to test-ride the capsule back to earth after ejecting from an aircraft.

Who will it be? Right now the Air Research and Development Command—the organization charged with the project—doesn't know for sure.

But, in a low, white building marked "Aircrew Effectiveness Branch" five blocks away from WADC headquarters are five Air Force volunteers who say they want, if given the chance, to prove that ejection capsules will someday be a pilot's best friend.

In the Name of Congress

No. 11 IN A SERIES

LT. JOSEPH R. SARNOSKI

MAJ. JAY ZEAMER

RECONNAISSANCE MISSION

by SMSgt. Hal Bamford

In August, 1942, the Marines invaded Guadalcanal. Within a very few months, Allied air units were operating from a growing number of air fields, and the Japanese were beginning to feel the lash of vengeance.

Almost as soon as Guadalcanal had been secured, Allied bombers began moving onto its serviceable strips, and as early as October, 1942, they began attacking Japanese flying fields in the Solomon Islands to the north.

However, at this early stage of the war in the Pacific, the raids were exceedingly weak, seldom comprising more than half a dozen aircraft, and they did little more than alert the enemy to the fact that their Solomons' bases could be reached by Allied heavy bomber strength.

By the close of 1942, the Japanese were strongly entrenched in this island chain, and most of the bases were showing increased activity. Principal among these was the strip at Buka.

During that winter and the following spring there was much nightly harrassment of the enemy by Boeing B-17s and Consolidated B-24s from the growing chain of bases which lined the northern area of Guadalcanal. Until early in June, 1943, Japanese retaliation against Allied fields for these assaults was sporadic and weak, but the general lull ended early that month.

On June 7, the enemy began to use its increasing air strength with a vengeance. That date marked the opening of a week's operation which topped anything yet attempted by the enemy. It also proved to be extremely costly for them.

During the first of these all-out missions, the Japanese paid with 23 losses while the Americans sacrificed nine aircraft from which all the pilots were rescued. Within days the second heavy thrust was mounted and again Japanese losses were extensive. Thirty-one attacking aircraft were downed while the Americans lost six planes and two pilots.

After the second major raid, another lull occurred, but area commanders were certain that the opposition had not abandoned its task. Consequently, on the morning of June 16, a reconnaissance mission was laid on to photograph the Solomons' fields from which the Japanese had been mounting these giant thrusts.

One of the missions was scheduled for Buka. A volunteer crew, led by Capt. Jay Zeamer, was assigned this objective. His crew had already earned a reputation by asking for all the "tough ones" in the area and had been dubbed the "Eager Beavers" by their squadron mates.

Before dawn, Captain Zeamer's B-17, unescorted, roared off the strip and pointed its nose northward. For miles, over vast expanses of empty ocean, the *Flying Fortress* droned on. About ten miles from their

objective, cruising at 28,000 feet, crewmen began to notice the first enemy fighters boiling up from Buka to intercept, but undaunted they continued to bore in to complete what promised to be a real rough mission.

Shortly after they began their photographic run, an estimated 15 to 20 Japanese fighters opened their attack. The initial pass by the defenders was made head on, and Lt. Joseph Sarnoski, riding in the nose bombardier compartment and manning the front gun, scored the first kill. Within seconds, Sgt. Johnny Able, top-turret gunner, picked off the second enemy.

Soon after the second attacker was downed, the B-17 suffered a severed main oxygen line, cut by a Japanese bullet. Captain Zeamer pushed the ship down in a dive to 18,000 feet and just as he was leveling out, he noted a Japanese fighter coming in from his left.

In the fond hope that someday just such a situation might occur, the captain had mounted a fixed .50 calibre machine gun on his side of the cockpit. Now, quickly kicking the rudder and making a diving turn to the left, the pilot lined up on the attacker, pressed the trigger, and scored win number three for the desperately battling crew.

As he leveled out, an incoming Japanese fighter scored a direct hit on the nose compartment with a 20 mm. shell. Lieutenant Sarnoski was blown back into the passageway under the cockpit but, though fatally wounded, he crawled back to his post and fought off a withering nose attack, scoring his second victory and the plane's fourth before dying at his gun.

The exploding shell which killed Sarnoski caused extensive damage to both the aircraft and its gallant crew. The radio was completely shot away and the compass knocked out. Later, when they attempted to land, the crew was to discover that both flaps and brakes were also inoperable.

Captain Zeamer, himself, had caught a portion of the burst and was wounded in both legs. Later passes by other Japanese fighters added wounds in both arms, and four others joined the list of wounded airmen aboard the lone, unescorted aircraft.

In his book, *General Kenney Reports,* the 5th Air Force commander described the next few minutes from post-mission conversations with the crew members.

"After 40 minutes of this crazy combat, the Japanese finally pulled away. They had lost five planes definitely. Most of the others were damaged. The B-17 had completed taking its pictures and headed back home. The photographer, Sergeant William Kendrick, also doubling in brass on both side gun stations, had been alternately taking pictures and shooting at the Japanese. A lot of lead had poured through his section of the ship but he had collected none of it. Zeamer had passed out from loss of blood. The co-pilot was being bandaged. The navigator, Lt. Ruby (sic) Johnston, was badly wounded and out of commission. The top-turret gunner, Sergeant Able, just slightly wounded and by now nicely bandaged, and who doubled in brass as flight engineer, was in the copilot's seat, flying a B-17 for the first time in his life—keeping the sun at his back—which was roughly the direction to the home airdrome, 580 miles away."

Occasionally during the return trip, Captain Zeamer regained consciousness long enough to give course directions and add words of encouragement to Sergeant Able in his "solo" flight. Minutes out of Dobodura Air Field, their home station, the copilot, now bandaged and partially revived, returned to the right seat and relieved Able. A scant 25 miles from home, Captain Zeamer once again regained consciousness, and although unable to assist with the wheel, he aided on the rudder, and together the crippled pilot and copilot prepared to bring the ship in.

There was no time to worry about the wind as no one could be sure how long the two men in the cockpit would remain conscious, so they simply pointed the nose down and banged onto the runway—downwind. Without brakes and flaps, the riddled aircraft careened along the strip, slowly decelerating from its own weight. Just feet short of the end of the 7,000 foot strip, its momentum ran out and it ground to a battered halt—mission completed.

They had scored a total of five confirmed wins and damaged an untold number of additional aircraft. The photos which they had set out to collect were there in their entirety. The crew had lost one member—Lieutenant Sarnoski—and five others were wounded. The remainder were in varying stages of shock.

In December, 1943, the citation awarding Lt. Joseph R. Sarnoski the Medal of Honor was published. A month later, the following citation, similar to that of Sornoski's, also awarded America's highest honor to Captain Zeamer.

Major Zeamer (then Captain) volunteered as a pilot of a bomber on an important photographic mapping mission covering the formidably defended area in the vicinity of Buka airdrome, Solomon Islands. While photographing the Buka airdrome, the crew observed about 20 enemy fighters on the field, many of them taking off. Despite the certainty of dangerous attack by this strong force, Major Zeamer proceeded with his mapping run, even after the enemy attack began. In the ensuing engagement, Major Zeamer sustained gunshot wounds in both arms and legs, one leg being broken. Despite his injuries, he maneuvered the damaged plane so skillfully that his gunners were able to fight off the enemy during a running fight which lasted 40 minutes. The crew destroyed at least five hostile planes, of which Major Zeamer himself shot down one. Although weak from loss of blood, he refused medical aid until the enemy had broken combat. He then turned over the controls, but continued to exercise command despite lapses into unconsciousness, and directed the flight to a base 580 miles away. In this voluntary action, Major Zeamer, with superb skill, resolution, and courage, accomplished a mission of great value.

All other members of the crew were awarded Distinguished Flying Crosses.

The awards to Sarnoski and Zeamer represented the second dual citation of World War II, and were USAF's seventh and eighth of the conflict. They brought the overall Air Force total to 14 since America's entry into World War I.

Goal: A Safer Air Force

by Dave Karten

1st Lt. James E. Obenauf was awarded Koren Kolligan, Jr., Flight Safety Trophy for landing crippled B-47 from copilot seat, minus canopy, saving life of navigator who lay unconscious in crawlway of Stratojet *during high-altitude training mission.*

A new Deputy IG for Safety will consolidate the Air Force safety effort

To insure a safer operation in today's Air Force and tomorrow's aerospace force the USAF recently combined its four primary safety programs—ground, flying, missile and nuclear—under a Deputy Inspector General for Safety.

Operating under Lt. Gen. Elmer J. Rogers, Jr., The Inspector General, USAF, the new centralized staff office will direct the Air Force's never-ending battle for safety.

Reason for the consolidation and added emphasis on safety? Conversion to new generation Mach 2 and Mach 3 aircraft (two and three times faster than sound) and expanding missile operations will increase our accident exposure. And every accident that occurs—on the ground or in the air—impairs the Air Force's mission capability.

To better understand what this accident prevention business is all about, let's briefly look at the four safety operations to be monitored by the new Deputy Inspector General for Safety, Maj. Gen. Joseph D. Caldara.

RIGHT NOW, while you are reading this sentence, the USAF has between 1,100 and 1,200 planes in the air on training flights. By comparison the commercial airlines, domestic and international, own only a few hundred more airplanes and don't fly the majority of them at any given moment. When weather is below minimum, commercial flights may be cancelled.

Not so with the air defense pilot on runway alert who is ordered into the murk to seek out an unidentified track; the SAC B-52 crew flying a simulated combat training mission; or the TAC fighter pilot leaping off as part of a Composite Air Strike Force.

The average person can read about 250 words per minute—roughly four paragraphs of normal writing. During that minute, Air Force planes fly approximately 4,750 miles, some at extremely high altitudes. This is equivalent to crossing the U. S. twice a minute, traveling to the moon in one hour, or two trips a year to the sun.

With an operation of such magnitude it's easy to see why we must have a flying safety program and why the problem of safety involves such a large number of complicated factors.

Every major command in the Air Force has its own definition of flying safety, and each one is good—as far as it goes. Basically the definition of flying safety is summed up in the mission of the Directorate of Flight Safety Research: "To conserve the combat capability of the Air Force for use in war." This is no small assignment when you consider that in the last seven years more than 2,500 pilots have been injured fatally in peacetime aircraft accidents. These airmen represent an irreplaceable loss.

The Air Force flying safety program as we know it today is a tribute to Gen. Hoyt S. Vandenberg and Maj. Gen. Victor E. Bertrandias whom General Vandenberg, then Chief of Staff, recalled to active duty early in 1950 to direct a new flying safety program. Bertrandias' two-phase concept—prevention and investigation—has paid dividends ever since in a lower aircraft accident rate each year and by conserving lives and equipment for the day when they might be needed in combat.

Prime responsibility for flying safety in the Air Force rests with each major air commander. But at the heart of the program is General Rogers, The Inspector General, assisted by his Deputy for Safety, General Caldara, and Director of Flight Safety Research, Brig. Gen. Walter E. Arnold.

Safety is equally important no matter where you operate—on the ground or in the air, but in the air there are unusual and unique ramifications requiring an equally unique program of accident prevention and investigation to put it across.

The need for such a program has existed since Orville Wright broke a leg and Lt. Tom Selfridge was fatally injured in the military's first aircraft accident in 1908, but it was World War II that forced the issue. With the Nation's aerial might expanded 100-fold in a few short years, pilots and ground crews, of national necessity, qualified after completing capsulated training courses and flew in planes mass produced in quantities as high as 11 a day from a single plant.

Major aircraft accidents peaked at 71 per 100,000 flying hours in 1942, dropped to a commendable 44 by war's end only to rise again to an alarming rate of 61 in 1946 during the frantic rush to demobolize. Jets were introduced in 1947, and it looked like accidents were going to increase—not decrease. Fortunately, the record shows otherwise.

Despite increased use of new high-performance jets, the well-organized and executed program of prevention and investigation last year saw the Air Force's major accident rate reach an all-time low of 10.4 per 100,000 flying hours—almost fantastic when compared to the Army Air Corps' rate of 506 accidents per similar period in 1921.

A paradox to the lowered accident rate in the jet age, however, is the fact that in 1947 less than one-third of all aircraft involved in accidents were destroyed. In 1958, almost 59 percent were complete wrecks. By the same token, the trend of pilot fatalities to major accidents has increased from 17 percent in 1947 to 34 percent last year, due primarily to increased performance requirements of today's jets. This means that the Directorate of Flight Safety Research as reorganized under the new Deputy Inspector General for Safety, will have its future work and goals cut out in bold relief.

As General Caldara has said, "The only irreducible rate in the Air Force is zero for both accidents and fatalities. Until it has been achieved and sustained, we can't let up our efforts for one minute."

Secretary Douglas, General White, General LeMay, the Air Staff, commanders in the field, and all other personnel connected with Air Force flying operations are aware of the serious impact that accident losses have on our combat capability. That's why no other program in the Air Force receives more attention from as many people as that of accident prevention. Flying safety cuts across virtually all fields of endeavor, and is necessarily an integral part of the entire operation.

An old saw among pilots says: "Flying is made up of hours of boredom broken by occasional moments of stark terror." That's no longer true in today's Air Force. Nowadays, every time an Air Force plane takes off on a mission, aboard is a pilot or crew trained to share an attitude that combines discipline with knowledge. They know that flying safety is personal survival. They make flying safety their business.

Ground Safety

The Air Force is just as much concerned with the safety of its men on the ground as in the air. An injured airman is a liability to his unit whether he was hurt in an auto or in an airplane.

The USAF's ground safety record has been particularly impressive since 1950. The Air Force recently received the highest award of honor for "distinguished service to safety" from the National Safety Council for the ninth consecutive year. The award recognized the overall reduction in ground accidents last year over the two previous years during increased activity and expansion when accidents on air bases and highways were more likely to occur.

During the years 1949-58 the Air Force reduced its ground accident rate and costs as much as 25 percent annually. Specific improvements in 1958: reduction in military injury rate, the USAF (government-owned) vehicle accident rate, and ground accident costs per capita strength. The rates are determined through accident indexes used in a system of ground accident investigation, reporting and analysis.

The automobile caused the highest proportion of injuries. By far the greatest number occurred in privately owned vehicles. Although injuries and fatalities declined last year, 507 airmen were fatally injured in private autos; 18 in government-owned vehicles. Accidental deaths from sources other than operation of motor vehicles were reduced 29 percent.

Engineering and research studies are helping to uncover the causes of many human and materiel ground accidents and indicating corrective measures. Research projects in the ground safety program include studies on auto crashes, noise problems, use of reflectorized material, vapor-control systems, liquid-petroleum exhaust purifiers, and methods of handling dangerous materials.

Under the Deputy IG for Safety, Mr. Will L. Tubbs (Col. USAF, Ret.) directs the ground safety program that covers all Air Force military and civilian personnel worldwide.

Safe driving programs receive major emphasis because private vehicle accidents cause more deaths to Air Force personnel than all other ground activities combined and more injuries than any other single source. The private vehicle safety program was intensified three years ago with AFR 32-7 which establishes policies and procedures for organization, prevention, techniques, engineering, education, guidance for commanders, etc.

In March 1956 the Air Force instituted a beginning driver's course in all commands on a voluntary basis. Developed in cooperation with AAA and Education Services, it is equivalent to the course offered in high schools. A survey indicates 10,000 Air Force personnel are annually electing to take this course.

A shorter remedial course for airmen involved in accidents or traffic violations is required by many commanders. In April 1957, a USAF-wide standardized compulsory driver improvement course was established for airmen under 25. (Records show civilians as well as military in this age group have a higher motor vehicle accident rate than any other age group.) Today the course is reaching almost half a million young airmen and helping decrease injuries and deaths from private motor vehicle accidents. The compulsory course has received favorable comment from national safety agencies and from airmen who completed it. Early this year civic leaders in Fayetteville, N. C., were so impressed by the safety record established at nearby Pope AFB after the driver improvement course was conducted there, they started a program patterned after the one at the base.

The ground safety program also has specialized measures, such as a traffic safety briefing required for all

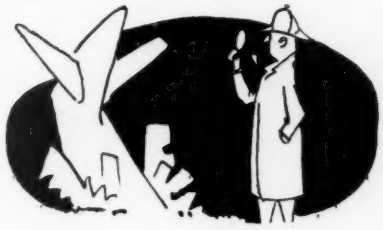
personnel departing on PCS or leave by privately-owned automobile. Because "safety is a command and supervisory responsibility" in the Air Force, instruction in ground accident prevention is included in courses at the USAF Academy, Air University, and NCO Academies to equip commanders and supervisors with a sound background in safety principles. Courses are also conducted for personnel who specialize in ground accident prevention as a career at the University of Denver. Two classes in Motor Vehicle Traffic Control are conducted annually at Northwestern University's Traffic Institute for Air Force personnel from the four agencies primarily concerned with prevention of vehicle accidents: Provost Marshal, Installations, Transportation, and Ground Safety. A 100-hour course is conducted at NYU's Safety Center for Air Force officers who function as full or part-time Ground Safety Directors.

The Air Force works in close cooperation with private, industrial, and governmental organizations in developing various ground safety programs. It cooperates with civic leaders in local communities for safety measures of benefit to airmen and civilians alike.

Missile Safety

A missile safety group, established as a field extension of the new Deputy IG for Safety, will tackle a knotty safety-engineering problem: that of assuring accident-free missile operations.

Advancing missile technology and increasing missile weapon systems inventories have introduced new hazards and problems into operations. Storage and transfer of chemical fuels and fuel systems are examples of the formidable characteristics of the weapons that require highly developed controls, constant surveillance, new safety devices and personal protective equipment to assure maximum safety and combat effectiveness.



Safe missile operation calls for thorough knowledge of the "birds" and new safety techniques. The USAF's method of approach? Pinpoint potential accident hazards inherent in missile design and materials; with extra emphasis on the procedural and human errors that can lead to missile accidents. Already the missile safety problems have been under study for some time. Procedures for investigation and analysis of missile mishaps have been set up. As missile units continue to be introduced into the active inventory, the Air Force missile safety program will expand.

Nuclear Safety

As a hard core of the new Deputy IG for Safety Office, the Nuclear Weapon Systems Safety Group, located at Kirtland AFB, N. Mex., is in business to prevent nuclear accidents. NWSSG's job: to insure adequate safety design in high potency weapons and safe procedures in handling them. The nuclear safety group considers all recognizable safety aspects throughout the stockpile-to-target sequence. Object of their program? To insure that everyone concerned with handling or use of nuclear weapon systems performs his job in the safest possible manner.

All four primary Air Force safety programs—ground, flying, missile, nuclear—function separately under the Inspector General's new Deputy IG for Safety with a common objective: Economy of defense and efficiency of operation through the prevention of avoidable accidents.

A modern Air Force must have a dynamic safety program that is just as carefully constructed and administered as any other element of its organization. Consolidation of the four primary safety programs under one staff office of TIG is a step in this direction.

As General Rogers sums things up realistically:

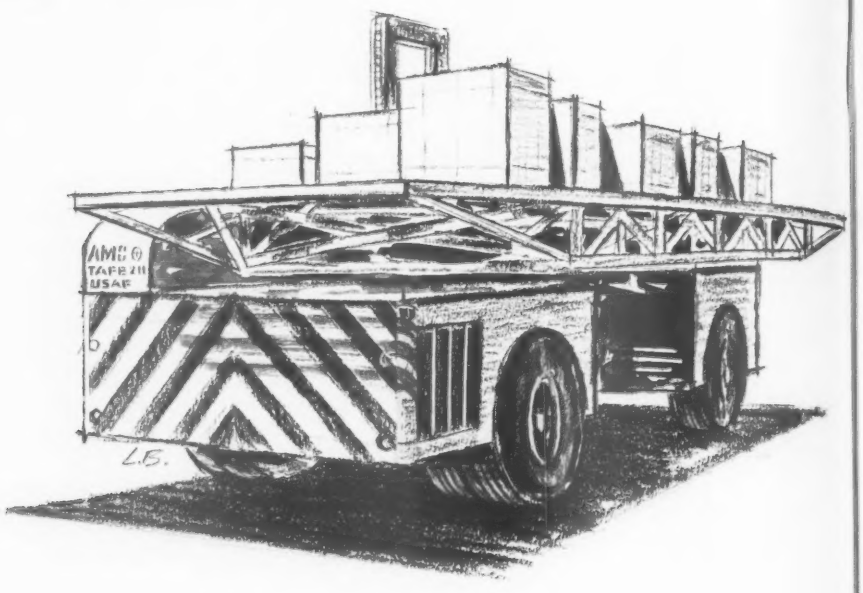
"The battle for safety in the Air Force can never be won completely. But every safe and successful flight and every safe missile launching is a victory in itself, just as every damage and every loss through an accident is a defeat.

"By unrelenting effort in maintaining the highest possible standard of safety, we can promote the USAF's combat readiness and make an important contribution to the preservation of our national resources and the maintenance of our security."

BOMARC ground crewmen unfold flexible piping to fuel missile's liquid rocket booster which uses combination jet fuel and fuming nitric acid. Although men wear protective clothing, acid truck has built-in safety devices that make accidental spillage virtually impossible.

4th in a Series on Air Staff Functions:

DCS/Materiel Provides Equipment and Supplies in Its



LOGISTICS LOGIC

"GIT there fustest with the mostest . . ." was Confederate General Nathan B. Forrest's logistical formula for victory during the Civil War. Today, his formula still has meaning. However, where it once meant moving a battalion of calvary troops a few miles, it now means understanding the complexities of modern aircraft and missiles, planning ahead as far as a decade, and rushing equipment—in the most selective and economical manner—to where it is most needed.

It's difficult for the average airman to look at an organization chart and visualize how the different pieces of USAF structure fit together. In this series on air staff functions it may help to compare USAF to a theater group producing the most important play in our time—a Play for Peace. The actors are airmen but their mission is not entertainment. Rather, it is world peace.

DCS/Materiel, headed by Lt. Gen. Mark E. Bradley, Jr., can be favorably compared to a theater group's production department. Under him are seven major working groups: the Directorates of Materiel Programs, Procurement and Production, Transportation, Logistics Plans, Supply and Services, and Maintenance Engineering and an Assistant DCS for Mutual Security.

Everything for the constant operation of USAF must be furnished by this production department. If you need a vacuum cleaner, DCS/M gets it. If a pilot needs a helmet they make sure he has it. If airpower is needed anywhere, they move it. If a new concept is being considered they'll review it to insure everything needed is on hand in time.

Big, Big Business

Almost everyone thinks of materiel offices and shops as agencies of supply. And true they are. But at the same time they're much more. However, in describing DCS/Materiel let's start by looking into the Directorate of Supply and Services.

The Air Force supply system cannot be compared in size or complexity with any distribution system employed by civilian industry, since everything from tiny bolts and nuts to aircraft engines is catalogued among the Air Force's one-and-a-half million supply items.

In the Pentagon policies are established and monitored to bring about the requisition, receipt, storage,

and distribution of all these items. In addition, reclaiming obsolete or worn out items and selling or redistributing surplus property are part of the supply task. At all levels and for every type of Air Force organization, realistic stock levels are established. In a relatively new *stockage program* all Air Force units must keep on hand those supplies needed for the initial days of any conflict.

Electronic data processing equipment lowers AOCP rates and raises combat effectiveness by permitting instant response to requests for urgently needed supplies. The picture of a supplyman handing out sheets and pillow cases is fading. The new look is one of a technician skilled in mechanized supply handling. On a good size combat base a typical supply activity represents a total investment of some one-third of a billion dollars.

This directorate also has a services division. It provides personal services like food preparation and distribution in dining halls, clothing sales stores, and dry cleaning and laundry facilities. Mortuary facilities too are its domain and in time of war so is graves registration. These services should not be confused with exchange and civilian-contract services on a base. However, personnel from this division are members on the Army, Air Force Exchange Council which operates base exchange facilities in a separate program.

Land, Sea, and Air

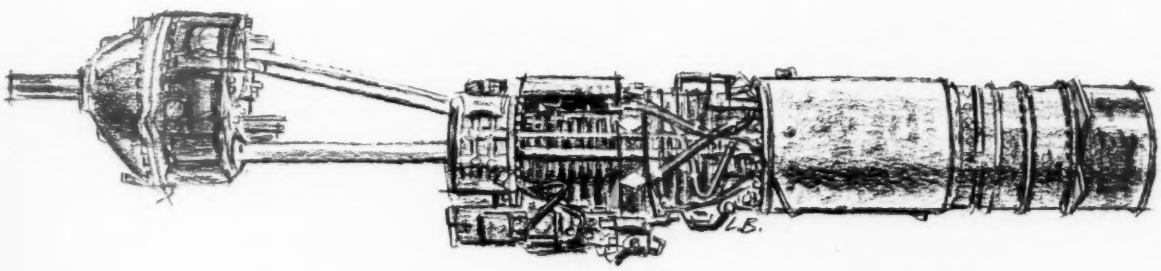
If you should need a whale boat—to recover a nose cone from the ocean—Directorate of Transportation will get it. Or maybe you require a mule to carry supplies to an isolated radar post on a mountain top. Again, transportation moves in.

Transportation is concerned with anything that moves—and in FY '58 it cost approximately a billion dollars to transport Air Force personnel and equipment. From motor scooters to bulldozers, pipelines to whale boats, transportation methods are maintained for day-to-day operations and to respond instantly to any possible combat situation. A large share of this transportation is in the motor vehicle fleet. Recent modernization of vehicles and policy has done away with the motor pool concept. Two-way radio systems permit vehicles to move from one point to another without returning to the pool. In the absence of radios, drivers use phones at check-in points. Interagency use of vehicles also contributes to the efficient use of vehicle fleets at large bases and in metropolitan areas.

Further, transportation must plan ahead and be ready to move on a moment's notice everything needed for any project, large or small. In this respect the Director of Transportation is interested in all available means of transportation (civilian and military), configurations of transport aircraft, and railroad car design for special handling of aircraft and missiles.

A large share of transportation's work is in the packaging and handling area. Here planners are concerned with packaging items with the least weight and bulk, yet with the necessary protection and security.

Traffic management and the operation of worldwide transportation terminals are also part of the transportation picture. Most striking examples of transportation's current airpower role can be seen in the airlift of combat strike forces during recent months.



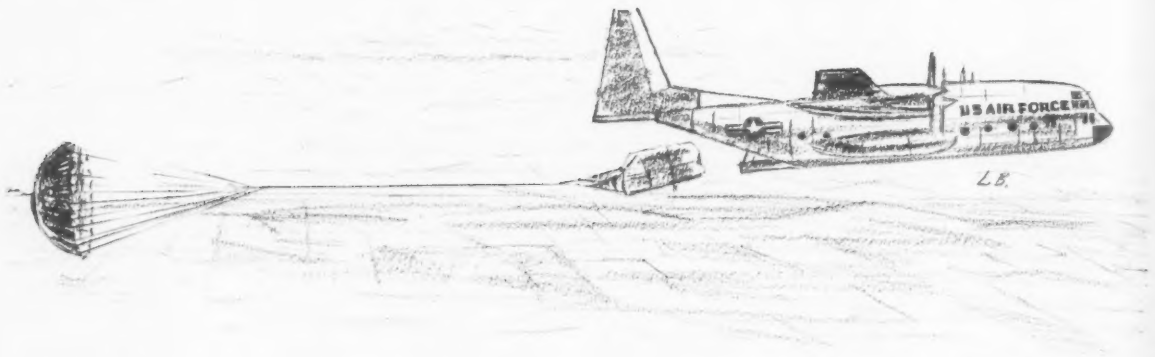
The Big Picture

To the cook supply means steaks and potatoes. To the radioman, it means new tubes, condensers, and resistors. To the secretary it's paper, pencils, and pads. To the aircraft mechanic its spark plugs, engines, and POL. Mix them all into one big melting pot and you have *logistics*. Everything needed to support combat forces constitutes logistics. Thus, the Director of Logistics Plans, is the management arm of DCS/M. He maintains a constant study of everyday logistics and plans for future, long-range requirements.

What will be needed if we change equipment, concepts or personnel requirements tomorrow? Can we be sure we have everything in place and on time? Experts, planning years ahead, look at proposed weapon systems and plans and determine the feasibility of supporting these in combat environments. And peacetime USAF training is not training unless combat environments are presupposed.

Keeping 'Em Flying

In defining the role of the Director of Maintenance



Engineering in DCS/M, the difference between installations maintenance, base housekeeping functions, and maintenance engineering that affects the operational mission must be understood. An air-conditioning unit in base headquarters is not its concern—but if you place the same unit into an aircraft, then it's maintenance engineering's baby. This directorate formulates, directs, and monitors the Air Force's work force for aircraft, missile, vehicle, and related support equipment maintenance.

It promotes ease and simplicity in the maintenance of existing items—from typewriters to F-104s. It reviews proposed new equipment—from battery carts to moon rockets—to determine their maintainability. Will their design permit good maintenance? Can an average airman reach all maintenance points of a given aircraft? Are the necessary personnel available to do the job? Do needed facilities exist?

The group also provides maintenance programs, policy, and surveillance for foreign countries using American equipment under the Military Assistance Program.

Other aspects of this agency cover monitoring the Contract Technical Services (tech rep) Program and the USAF Maintenance Dock Program. This directorate also develops and manages the worldwide operating and financial program for all maintenance engineering to make sure that maintenance, modernization, and modification funds are properly allotted to the various commands and used effectively.

Maintenance staffs constantly collect data for the PIP or Product Improvement Program. In this effort maintenance data is collected and evaluated to eliminate recurring maintenance bottlenecks and to provide a better end product—airpower.

Paper to Product Transition

Before airpower can use a new piece of hardware, much thought and study has to go into the proposed program. Once a decision is made in the Air Force and an operating requirement for a new item established, the Director of Materiel Programs, DCS/M, translates this operating program into a comprehensive materiel program. Such activity is divided into three major categories: aircraft, missiles, and equipment. This agency develops plans and policies for quantitative requirements, and provides budget estimates. It constantly reviews and analyzes procurement and production activity to keep an up-to-date overall materiel program in effect.

It also presents and defends all requirements and programs financed by aircraft, missile, and equipment appropriations.

Working closely with the Materiel Programs Directorate is another DCS/M agency, the Director of Procurement and Production. In many instances the authority of the Secretary of the Air Force to spend money can be delegated, and is, to AMC, operating commands, and similar agencies. However, where big money is involved, purchase of aircraft, missiles, etc., a procedure has been established wherein a Weapons Board advises on the type of hardware best suited to accomplish the Air Force mission. A Source Selection Board advises on what companies are best equipped to produce the item. Then a contract is negotiated with the source best qualified to deliver a quality product, on time, and at the best price.

In all these matters the Director of Procurement and Production acts as an arm for the Secretary. The agency processes reports, represents the Air Force at appropriations hearings, handles contract protests, and termination-of-contract actions.

Cooperation

In DCS/M an Assistant for Mutual Security plans for USAF participation in the Military Assistance Program. He estimates the budget, coordinates on the size and composition of the forces to be equipped in foreign countries, approves program changes, supervises the delivery of equipment, and is responsible for MAP logistic policies. He also reviews force organization and training in this worldwide program.

His Pentagon staff works closely with and through the Military Assistance Advisory Groups in various Free World countries. These countries express the needs of their air arm to the unified theater commander and it is forwarded to the Department of Defense.

Behind the Scenes

U. S. airpower is the deterrent force in world military affairs. But behind the scenes of each curtain that raises to reveal an outstanding aeronautical achievement, is the staff of materiel personnel providing needed equipment on time.

Now it's not always "gitting there *fustest* with the *mostest*" but it is a question of getting there *in time* with *everything* that's needed. —MSgt. PAUL J. TURNER

Lt. Thos. E. Selfridge and Dr. Alexander Graham Bell of Aerial Experiment Association.

FIRST TO FLY--
FIRST TO DIE

Lt. Thomas E. Selfridge, the man for whom Selfridge AFB, Mich., was named, is well remembered as America's first military air fatality. The fact that he was also the first military man to fly alone in an airplane has been all but forgotten. The lieutenant piloted an airplane in line of duty on May 19, 1908, several weeks before the Wright brothers began testing their airplane at Fort Myer, Va.

Selfridge, an instructor at West Point, was sent to Baddeck, Nova Scotia, in the summer of 1907 to participate in a series of aeronautical experiments with Alexander Graham Bell, Glenn H. Curtiss, F. W. Baldwin, Jr., and J. A. D. McCurdy. There the men formed an organization called the Aerial Experiment Association and Selfridge was appointed secretary.

Early in November the men completed *Cygnet I,* a 42-foot man-carrying kite designed to be pulled into the air by a tow boat. On December 6, with Selfridge aboard, the kite attained a height of 168 feet and stayed aloft seven minutes. Several shorter flights, manned and unmanned, were also made.

With winter at hand the experimenters moved to Hammondsport, N. Y., arriving there on December 23. This was the same day that the Chief Signal Officer at Fort Myer, Va., called for bids on a heavier-than-air flying machine.

The Aerial Experiment Association went back to work early in January 1908 after deciding, with one dissenting vote, to forego any further kite or glider experiments. The dissenter was Selfridge, who believed that several gliders should be built and flown in order to learn more about in-flight stability. Majority rule prevailed, however, and it was decided that each man should design and fly a self-powered machine. Selfridge was to be first.

When his airplane, *Red Wing,* was nearly completed the lieutenant was called to West Point on Government business. In his absence the others completed the airplane and, because they feared the ice would melt on the lake soon and they would have no landing area, Baldwin made the initial flight immediately, remaining aloft several seconds. It was agreed that Selfridge would be permitted to make the maiden flight in Baldwin's machine, *White Wing,* which was nearing completion.

The *White Wing* was completed in May. Its cotton wing covering unlike the silk covering of the airplane designed by Selfridge, was too porous to provide sufficient lift. A coating of varnish solved the problem, and on May 19, 1908, Lieutenant Selfridge became the first military man in history to pilot an airplane in solo flight.

The association built two more airplanes. The *June Bug,* built and flown by Curtiss, won the *Scientific American* trophy by flying more than a mile at 40 miles per hour. Work was begun on the *Silver Dart* before Selfridge was called to Fort Myer for new aeronautical duties.

During August 1908 Selfridge, a qualified balloonist, participated in lighter-than-air flying activities with Frank Lahm and Benjamin Foulois, two lieutenants who were destined to make aeronautical history. On September 3 the *Wright Flyer,* built by two Ohio bicycle mechanics, began a series of test flights. Six days later, when Orville Wright stayed in the air 57 minutes and circled the field at Fort Myer 57 times, Selfridge conceded that the Wrights were far ahead of Dr. Bell's group in knowledge of aeronautics. On this same date he watched his friend, Frank Lahm, gain the distinction of being the first military passenger in the Wright machine.

Selfridge was taken aloft by Orville Wright on the afternoon of September 17. Wright was at the controls when, at an altitude of 150 feet a propeller broke, damaging the rudder system. The machine went out of control, sideslipped, nosedived, and struck the ground violently, seriously injuring Wright and fatally injuring Selfridge. The first military man to fly had become the first to die.

—HAROLD L. CRAVEN

TAC's Aerial Gas Stations

by A/3C Milton Lyon

Fifty miles off the South Carolina coast a pair of Tactical Air Command jet aircraft—an RF-101 *Voodoo* and RB-66 *Destroyer*—stand by to slip behind a KB-50 tanker from the 4505th Air Refueling Wing at Langley AFB.

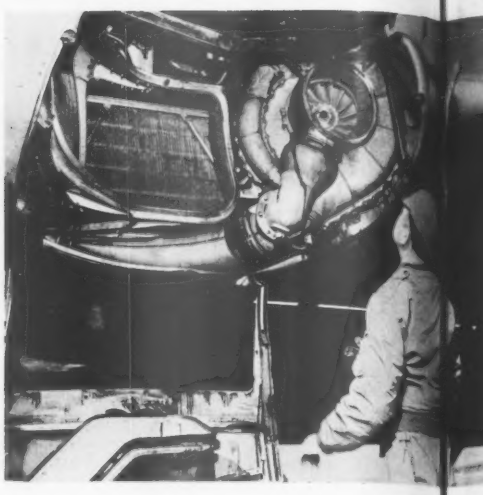
The pilots of these two fuel-hungry aircraft reduce power and hook up to the four-engine aerial gas station. Moments later each plane has full tanks and is ready to continue its mission.

Simultaneously in Europe, the Far East, and other parts of the world, TAC supersonic fighters and fighter-bombers continually practice to perfect their in-flight refueling capabilities.

Missions like the one shown on these two pages begin early in the morning when fighter pilots and tanker aircrews are briefed. Weather is checked, fuel loads are computed and refueling rendezvous points established. The KB-50s are in the air first. Later the thirsty fighters will seek them.

Results of these daily practice missions were dramatically emphasized recently when TAC's Composite Air Strike Force units streaked to Lebanon and Formosa when war almost broke out in these two trouble spots.

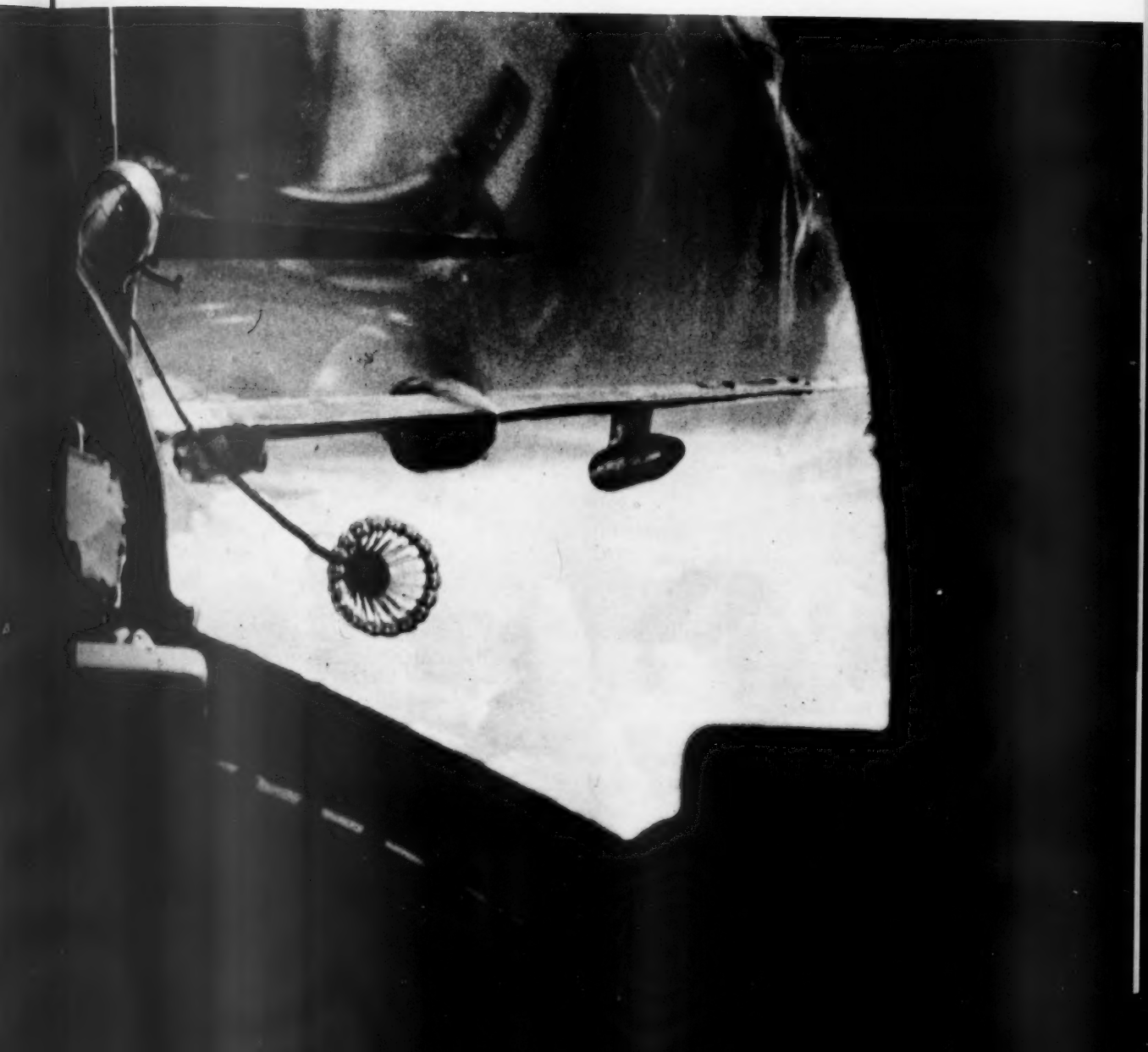
Air refueling, in this case, was the link between success and failure. And it was exacting practice that made both operations go off without a hitch when the chips were down.



Making final preflight check of KB-50 engine (top left photo) before refueling mission is MSgt. James Ammons, flight engineer with the 4505th Air Refueling Wing, Langley AFB.

After takeoff, 1st Lt. Joseph A. Richard, navigator, (seated) charts KB-50's rendezvous position (top right picture) while instructor navigator George Lee watches.

View of KB-50 tanker from air (right) shows how a TAC fighter-bomber approaches the airborne gas station prior to actual hookup.



Questions and Answers on:

Today's Missile Training Opportunities

Q. What is the Air Force missile training program?

A. The Air Force is currently programming several types of ballistic and nonballistic guided missiles into its inventory. As each of these weapon systems becomes operational, well trained and highly technical personnel will be needed to operate and maintain the missile and its supporting equipment. The Air Force missile training program is designed to provide these people.

Q. Who may attend missile training courses?

A. Initial operational crews for the new weapon systems are composed of personnel selected from career fields closely related to the skills needed in support of missiles.

Q. How are most personnel being assigned to missile units at present?

A. Upon graduation from (a) factory courses (type I), (b) ATC special training courses (type II), and basic courses (AFR 39-9).

Q. Who is responsible for establishing missile training courses?

A. Air Training Command is responsible. They may conduct them at a contractor or an ATC facility. Integrated weapons system and unit training is the responsibility of the using command. For example, SAC has the responsibility for integrated unit training on the *Atlas, Titan,* and *Minuteman.*

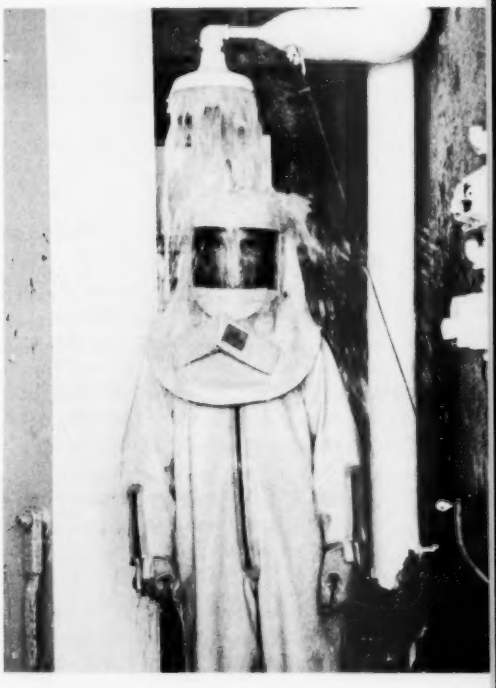
Q. What is meant by type III missile training?

A. Type III training includes basic and advanced technical courses on missiles and related subsystems and ground-support equipment. The basic courses are generalized, and graduates possess a semi-skilled level of proficiency in the missile field.

Upon completion of this training, students generally go to operational missile sites as apprentices and apply their knowledge to a specific weapon. These people increase their skill under the guidance of on-the-job training supervisors or by receiving additional courses on the system from field training detachments at the site.

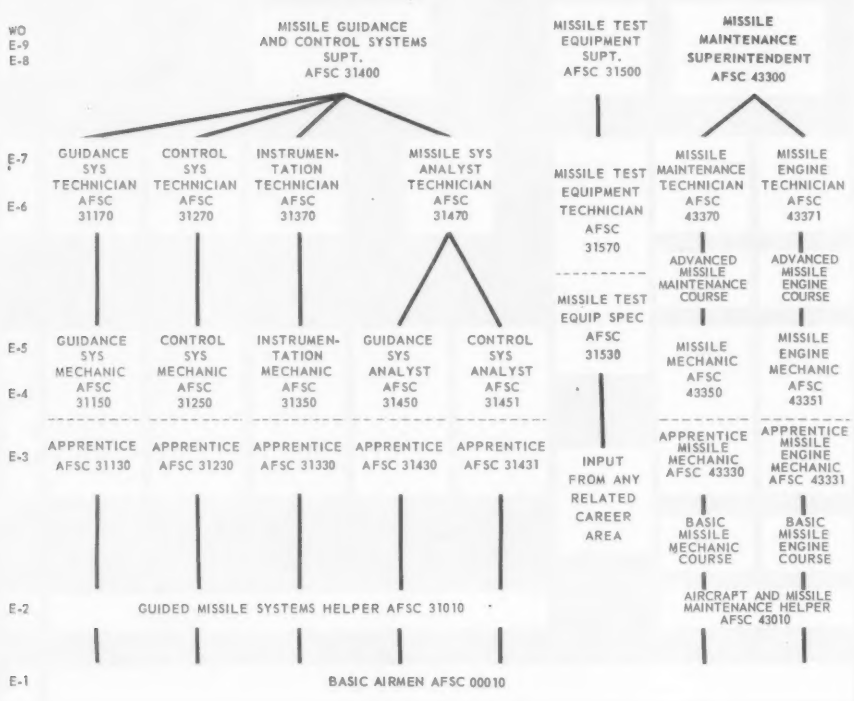
By remote control TSgt. Dan Proteau (left) and MSgt. Fred King of SAC's 556th Strategic Missile Sq., check functioning of Snark's *internal mechanism on launch trailer's instrument panel prior to Cape Canaveral firing.*

Clothed in vinyl plastic protective suit, TSgt. Walter R. Parker, student trainee in Chanute AFB's missile engine course, showers after servicing rocket engine with nitric acid. 'Wash down' removes any fuel that might have gotten onto his clothing by accident.



Three members of an Air Force Ballistic Missile Division team study servicing procedures at the AF Missile Test Center, Cape Canaveral, Fla., just prior to start of Atlas *ICBM countdown.*

Photo by MSgt. Fred Santomassino



(Chart No. 1)

Q. Can airmen in semi-skilled or technical fields retrain into a missile skill?

A. There are a few basic missile courses (type III training) conducted at ATC's Lowry AFB, Colo. Graduation from these courses usually leads to an assignment with an operational missile unit, where upgrading is accomplished by field training detachments, or on-the-job training. Out of 18,000 retraining applications approved by USAF between January 1, 1957 and December 31, 1958, under the airman retraining program 554 airmen were placed in ATC basic missile courses. Retrainees generally fill other critical AF skills and career areas vacated by selectees for missile cross-training.

Q. Will it eventually be possible for more airmen from unrelated fields to train into missiles?

A. Yes. After the initial personnel requirements are met on an operational missile system, type III courses will provide a constant flow of trained personnel to man the missile squadrons. Type III courses at Lowry, for example, support the TM-61 *Matador* (TAC missile) and the *Falcon* (guided air rocket). This training is designed for airmen with less experience than type I and II training requires.

Q. Is all specialized individual training conducted by the missile manufacturers?

A. No. As soon as the necessary equipment and instructors are available, Air Training Command sets up type II courses at its own training centers and the factory courses are phased out. The remainder of the initial manpower required by the using command is furnished from these courses. In addition, ATC's instructor staff is filled out with graduates of type II training. Instruction in type I and II training is the same and designed to provide 30 to 50 percent of the full operational personnel requirement of the using command in the shortest possible time. Types I and II courses are geared to people who already possess a high level of technical skill in a related field and are called special training courses. Students are sent to ATC or contractor facility for special training by the using commands or by Headquarters USAF.

Q. Are type I and II courses difficult? What are some of the topics covered?

A. The type I and II courses are specialized for a specific missile, and since the students are already highly qualified, they normally experience little difficulty. The courses cover such subjects as guidance systems repair, propulsion systems analysis, airframe maintenance, and ground power operation. They vary in length from two to 19 weeks. However, in some instances it is necessary to extend courses beyond 20 weeks.

Q. How are the type I and type II courses set up? Where are some of the schools located?

OFFICER
GUIDED MISSILE CAREER FIELDS
GM OPS STAFF OFF AFSC 1816
GM MAINT STAFF OFF AFSC 3116
MANDATORY ORIENT & FAMILIAR COURSE
GM OPS OFF AFSC 1824
GM MAINT OFFICER AFSC 3124
ARM STAFF OFFICER AFSC 3216
MANDATORY COURSE
AIR CMDR 0066
ORG CMDR 0026
OPS STAFF O 1416
CE STAFF O 3016
ARM STAFF O 3216
INPUT ANY AFSC WITH 18 MOS MISS EXP. MANDATORY
MANDATORY COURSE
INPUT BASIC OFFICER
ANY OPERATING LEVEL SPEC WITH 18 MOS EXP IN MISS MANDATORY FROM ANY ONE OF FOLLOWING OCC FIELD
ARMAMENT
C-E
A/C MAINT
*Used for Missile Unit Commanders.

(Chart No. 2)

A. The Air Training Command—now programming or conducting courses on more than 15 different missile weapon systems—has adopted the "Prime Center Training Philosophy" to accomplish its missile training responsibility. Under this philosophy, accomplishment of the command's total training requirement on a specific weapon system is assigned to one of ATC's five technical training centers. For example, "prime" responsibility for training on the *Thor* IRBM is assigned to Sheppard AFB, Tex. North American Aviation's Rocketdyne Division at Canoga Park, Calif., conducts courses on *Thor's* propulsion system; Douglas Aircraft Corporation's Tucson, Ariz., plant will teach *Thor, Atlas,* and *Titan* airframe and ground-support equipment classes, and AC Spark Plug Division of General Motors, Milwaukee, Wis., conducts courses on the missile's guidance system. Lowry AFB, Colo., a "support" base for *Thor* training conducts a school on the missile's reentry vehicle. The overall responsibility for programming and contracting for all of these courses is charged to Sheppard AFB.

Q. What is type IV training?

A. Type IV training is instruction provided by ATC instructors at the site of the organization requiring training. This may include special training transition, familiarization, specialized equipment training, proficiency training, etc., and assisting in conducting OJT.

Q. What is type V training?

A. Type V training—courses conducted by other governmental agencies for the Air Force. An example is the *Jupiter* program wherein the training is provided by the Army at Huntsville, Ala.

Q. Where do students live while attending "factory training" courses?

A. Students are responsible for their own quarters, which are generally within the per diem allowance. The Air Force plant representative usually helps students find satisfactory quarters.

Q. Is additional training given after completion of the original missile training course?

A. Yes. In addition to the normal on-the-job training, a course graduate receives integrated weapon system and unit training.

Q. What is meant by integrated weapon system training?

A. Integrated weapon system training is an instructional period for training personnel with individual specialties to perform their missile duties and tasks as a crew or team. This training is normally given an airman prior to his assignment to a missle organization.

Q. Where does integrated weapon system training take place?

A. At Vandenberg AFB for SAC missiles, at Tyndall AFB for TAC missiles, and at Eglin AFB for ADC weapons.

Q. What is unit proficiency training?

A. The training conducted by an organization to achieve and maintain its own operational readiness.

Q. Is the 31 career field the only one concerned with guided missiles?

A. No. Airmen in other career fields are required. For example, the 42 (Aircraft and Missiles Accessories Maintenance), 43 (Aircraft and Missile Maintenance), 53 (Metal Working), and 56 (Utilities) career fields directly support missiles. Another example in the officer area is the Missile Operations Staff Officer which is in the 18 career field.

Q. What are the input AFSCs for people going into the missile-training program?

A. Input into the airman 31 (Guided Missile Systems) career field is primarily from the 30 (Radio-Radar Systems), 32 (Armament Systems Maintenance), and 42 (Aircraft Accessories Maintenance), career fields. In addition to the personnel going into the 31 career field there are requirements for other personnel such as clerks, supply men, etc., who come from their own career fields. The requirement for 56 career field personnel (in short supply) will be met by training new people who come into the Air Force and retraining people from other career fields into the 56 field.

Q. How can officers be assigned to missile units?

A. Request entry in missile maintenance officer courses listed in the USAF Training Prospectus. Basically the present course trains officers for duty in *Mace* missiles; however, it is a base from which units presently draw to support other requirements. Announcements will be made to all commands when new courses are opened.

As the various commands are assigned missions in the missile areas, command personnel records are screened to identify officers to serve in missile units. As requirements develop officers so identified are assigned internally within the command to missile duties.

Insofar as possible, commands with missile missions are filling officer requirements from the resources available within the command. When further manning assistance is required, personnel requisitions are sent to Hq USAF. Normally, overseas returnees, school graduates, and officers completing stabilized tours are first considered since this is a resource "pending PCS." Instances frequently arise where this resource is not adequate or officers with unusual or rare qualifications are required. This in certain instances limits the selection to a very few officers, which results in an individual selection and assignment of an officer to a missile organization.

Officers particularly interested in missile assignments are encouraged to indicate this preference in item 13, AF Form 11. This data is helpful in identifying officers for missile unit assignments.

Q. Are there special missile training courses for officers?

A. There are three special missile training courses for officers. A Supervisor and Planner's Course normally conducted at the appropriate missile production activity; and courses in Guided Missile Operations and Guided Missile Maintenance at the appropriate factory and at Lowry for the *Mace*.

Q. May an airman apply for missile training?

A. Yes, provided he meets the following prerequisites.

Selectees and applicants for school retraining must:

1. Possess less than 17 years of active military service at time of selection or application. (Waiver of this prerequisite will be considered for volunteers.)

2. Be in the grade of airman second class or higher.

3. Be on a second or subsequent enlistment. (Airmen on a first enlistment, who have at least two years' active military service, are eligible to apply for retraining if they are eligible for separation and reenlistment under AFR 39-14, and if they reenlist before departing home station for retraining.)

4. Possess a control AFSC at the 7 or 5 level (or 3 level where there is no 5 level in the ladder) in a designated resource skill, except for NCOs as outlined in Par. 15, of AFR 39-9.

5. Have an electronic percentile of 80 or the equivalent electronic aptitude score of 7.

6. Meet the qualifications for the course contained in the USAF Training Prospectus. Physical qualifications listed in the prospectus must be met before retraining. If a physical prerequisite is desired, and the airman falls below the standard, a waiver signed by a medical officer will accompany the application. Waivers will not be granted for color vision.

7. Possess retainability, immediately before departure for retraining, to insure retention upon completion of training—12 months for NCOs and 18 months for airmen. Extension of enlistment or reenlistment to meet this criteria is acceptable.

8. Not have been eliminated from a technical training course within one year of date of application or selection.

Q. If I get into the guided missile career field will I always be working with the same missile or type of missile?

A. Not necessarily. Some missiles are more or less "permanent." Others will become obsolete and require airmen to be retrained into the newer missiles.

Q. What are the chances for a basic airman just entering the Air Force to get into the missile field?

A. Not good. Factory and special training courses are now filled with experienced airmen. Basic missile courses are pretty much confined to career retrainees.

During the initial phase, the missile program requires personnel who have completed individual training within their specialties. It also requires technicians with field training. While some new career fields had to be established, a suprisingly large number of jobs were staffed by retraining personnel already proficient.

To cut training time and achieve an early operational capability, the Air Force had to go to existing units for the skills and qualifications necessary to the program. It would be ideal if the missile force could procure airmen from those reenlisting. This would insure prior experience, and a relatively long period of retainability. For the next few years, however, it appears that the requirements for 5- and 7-level personnel should not be beyond the Air Force capability. After the USAF has a base of experience and the training command is in full swing with missile courses, basic airmen will be trained for the missile program.

Q. Will there be overseas assignments in the missile field?

A. There are some overseas assignments for missile personnel in the European and Pacific theaters now; there will be even more in the near future.

Q. Who is authorized to wear the guided missile insignia?

A. Eligible to wear the new missileman insignia will be:

1. Officers and airmen holding guided missile AFSCs serving in guided missile units.

2. Officers and airmen assigned to a guided missile unit with a direct and distinctive role in the command, maintenance, operation, or guidance of the missile or its related ground support equipment.

3. Officers and airmen assigned to research, development, logistics, planning, testing, or training positions with primary duties directly associated with guided missiles.

4. Officers and airmen assigned to staff positions with primary duties directly associated with guided missiles and possessing AFSCs in the guided missile operations or maintenance career fields.

Airmen must possess at least the 5-level skill in their career field in order to be eligible for the guided missile insignia. In career ladders consisting of a single technician, 7-level, specialty and semi-skilled, 3-level, only, airmen will have to attain the equivalent of 5-level skill proficiency.

All officers and airmen must have demonstrated satisfactorily their ability in their guided missile assignment for at least three months and also be recommended by their immediate supervisors in order to be eligible for the guided missile insignia.

The new insignia will be authorized through published special orders. It may be worn only by authorized persons. The insignia may be worn permanently regardless of later assignments, unless an individual has been prohibited from wearing it.

Commanders may prohibit the wearing of the insignia when an individual fails to perform satisfactorily his assigned missile duty or conducts himself in such a manner as to bring discredit upon the insignia.

Personnel in support fields, such as administration, air police, food service, personnel, and the like, will not be authorized to wear the new guided missile insignia.

Personnel working on armament devices and aircraft-carried rockets also will not be authorized to wear the guided missile insignia.

Q. What missile training courses are now available through the USAF Extension Course Institute (Hq Air University, Maxwell AFB, Ala.)?

A. ECI Course 3111, Fundamental Principles of Guided Missiles. In this course, approximately 144 hours (48 points), you can gain the background information to help you work more efficiently on guided missiles. The six-volume course includes: (1) Introduction to Guided Missiles, History of Guided Missile Structures, Basic Aerodynamics, and Supersonic Flight Theory; (2) History of Jet Propulsion, Aerojet Engines, Rocket Theory, Liquid and Solid Fuel Rockets, Boosting and Launching Methods, and Propellants; (3) Attitude Control Systems, Sensor and Reference Units, Control Equipment and Regulation, Pneumatic Attitude Control Systems, Electronic Attitude Control Systems, and Attitude Checkout Procedures; (4A) Basic Navigation and Guidance Systems, Basic Celestial Navigation, Star Tracking Systems, Inertial Guidance Systems, Magnetic Guidance Systems, and Preset Functions; (4B) Command Guidance Systems, Hyperbolic Guidance Systems, Beam Rider Systems, Homing Guidance Systems, and Computer Guidance; (5) Instrumentation, Countermeasures, Warheads, and Projectory Analysis.

To qualify for this course you must meet the general eligibility requirements and satisfy one of the following prerequisites:

1. Successful completion of ECI Course 3000, 3007, 3011, 3021, or 3050.

2. Successful completion of military or civilian courses (resident or correspondence) in algebra and basic electronics.

3. Possession of an AFSC in 31 career field at the 3-level skill or higher.

At the present time there are over 9,000 students participating in course 3111 and more than 6,000 of these are airmen on active duty.

6475

Briefs from USAF, world wide

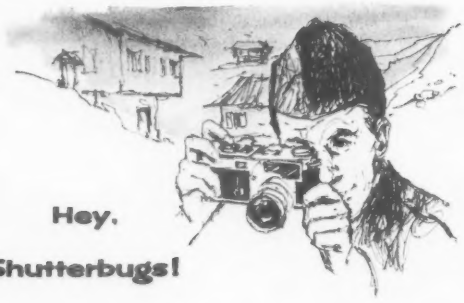
AIRMAN'S WORLD

Timesavers

Lockheed C-130s, such as the USAF aircraft shown on page 32, are being put to good use by the Royal Australian Air Force. The RAAF has been having trouble delivering *Avon-Sabre* jet fighters to Malayan outposts via the ferrying route. Because of limited fighter range, a circuitous 6,000-mile, five-day route was necessary. By loading the fighters on board the *Hercules,* however, deliveries are now accomplished in 12 hours with only a single refueling stop.

She's Part of Airman's World

Even though it's too much for a two-year-old to understand, Vicki Lynn Dean is contributing to daddy's morale. And in the 79th Fighter Group at Youngstown Municipal Airport, Ohio, A/1C Donald Dean's morale is important—as is the morale of all airmen throughout the USAF.



To date, THE AIRMAN staff has been pretty darn proud of the photos that preface this department each month.

Some of them just happened to come in with other material, and others we've searched for—often long and diligently. Neither method assures us that we will have a real, storytelling window into *Airman's World* each month, however. Consequently, we're asking for assistance from shutterbugs—both amateur and professional—USAF-wide. We want photos which you think are as good as or better than those we've used in previous issues.

Full credit will be given and, while this isn't intended to be a photo contest, we think others would be interested in the mechanical details such as film, f-stops, and shutter speeds.

Please include negatives. We'll acknowledge, then mail them back to you. There are two reasons for this action: First, we sometimes need more than one print for layout. Second, all photos used in THE AIRMAN are filed in official Air Force Photo Records, and we must furnish them a copy negative.

TAC Tribute

Gen. O. P. Weyland, TAC commander, recently dedicated a new permanent USAF memorial at Williams AFB, Ariz. The memorial honors tactical fighter pilots killed during the Korean conflict.

During the dedication, General Weyland, commander of Far East Air Forces at the time of the conflict, stressed the contribution the outnumbered pilots made using jet aircraft for the first time in combat.

In addition to citing the heroic acts prompting the memorial, he said future pilots training at Williams should look on the monument not only as a tribute to the dead, but also to the living and their "spirit of dedication and resourcefulness."

Sam's Song

The School of Aviation Medicine's educational and research program has had considerable international recognition in recent weeks.

The commandant, Maj. Gen. Otis O. Benson, Jr., was presented with an honorary pair of Nationalist Chinese Air Force flight surgeon's wings by Maj. Gen. Li Hsu-Chu, Surgeon General of the Chinese Air Force. The award was for General Benson's contributions in the medical education field to Chinese medical officers who have been graduated from the school.

Early in May, Robert Clarke, the science editor of France's leading morning newspaper, visited the school to collect material for a book and a series of articles on SAM's space age research. The same week, Lt.

Gen. Gustav J. A. N. Leroy, Commander of the French Air War College, and four other high ranking officers of the French Air Force, also visited SAM facilities.

At a meeting of the Aeromedical Association in Los Angeles, Dr. Lawrence E. Lamb, SAM's Chief of Internal Medicine, was presented with the Dr. Arnold D. Tuttle Award, a bronze plaque and $500, for achievement in aeromedical research. A member of the school's staff since 1955, Dr. Lamb has lectured widely on electrocardiography and has authored a book and several papers on the subject.

Meanwhile, General Benson has announced that the scheduled SAM move to its new quarters at Brooks AFB, Tex., will begin as planned. For a brief period, it was feared that a March fire in the basement of one of the new buildings would temporarily delay the move, which should be completed sometime this month. The school has been at Randolph AFB since October 1931.

Atomic Torture

Weapon system testing got a new look in June when USAF announced the opening of its 10,000-acre atomic aircraft test labs at Dawsonville, Ga.

Initial safety tests during the first half of the year proved 100 percent successful, and the main 10 megawatt (10 million watts) reactor began testing systems and components in June. The facility has been hailed as one of the most advanced radiation effects testing and development sites in the Nation. It was built primarily to perform necessary tests on nuclear-powered aircraft systems, parts, and materials, but is expected to be utilized in many other phases of atomic testing.

Lockheed designed and will operate the lab for USAF General Electric built the huge reactor which is housed in the facility.

Safety is the keynote throughout. The reactor area and supporting structures are enclosed by a chain-link fence, and a tunnel is used to gain entrance to the

adjoining control building. Employees are protected by two-foot concrete walls and five feet of earth.

USAF has anounced the facilities are available to other government agencies and has already received more than 50 inquiries.

Octane Shell

Another advance in aircraft safety has been made with the announcement by Goodyear Rubber Co. of production of the first crash-resistant fuel tanks for military use.

Tabbed the "Safety Cell," the new tank has withstood impacts exceeding 30 Gs (maximum level of human tolerance) in exhaustive testing carried on in cooperation with the Federal Aviation Agency.

Made of rubberized nylon and in development since 1949, the tank substantially reduces the danger of vaporized combustion upon impact. In most recent tests it was mounted in a simulated transport aircraft and slammed into a solid sandbag barrier at a speed of nearly 100 m.p.h. The tank did not burst nor shower its fuel in this 30-G impact. In contrast, a conventional tank, impacting at a speed that would rupture it, shattered into more than 100 pieces.

Reserve Activity

New York City's newspapers, wire services, news-gathering syndicates, radio, television, advertising agencies, and related industries have made it the Nation's center for mass communications.

More than 100 employees in these various fields are members of a unique organization, the 9215th Air Reserve Squadron, and several hold key positions with various media.

At a meeting of major command information services officers recently, these reservists outlined a Madison Ave. type plan to give active professional aid to Air Force information programs at no cost to the taxpayers.

Briefly, the plan would provide a liaison officer and a five-man staff from this professional group to each major command ISO. These "account executives" would study, evaluate, and make recommendations on information problems arising within the command.

The plan was called a "labor of love" by Col. Robert P. Keim, deputy commander of the squadron. While aiding the Air Force, it would also help squadron members "become more abreast of and proficient in realizing the problems confronting the active establishment of our Air Force."

Information Please!

Reference and Readers' Advisory Service, an integral part of USAF libraries, has the answer. Last year, for example, Air Force librarians answered 899,115 reference questions for airmen.

The queries ranged from simple questions (How and where did General Patton die?) to exceedingly complex ones (What is the function of a phantom antenna?).

In instances where the library's collection is not able to supply the information, the USAF librarian will make an outside call for inter-library loan. As any good reference librarian knows, somewhere the answer is available to just about any question. Besides this reference service which answers specific questions, a Readers' Advisory Service is available to help airmen pursue specific subject reading interests.

Taking into account educational background as well as interests, the reader's advisor prepares lists of recommended reading to guide prescribed programs.

Got a question? Chances are you can find the answer at your USAF library.

Keeping In Step

USAF, at the request of AACS, has directed new skill classifications in the Air Traffic Control (27) career field in an effort to keep pace with latest radar applications.

Story behind the move, set forth in Change Q to AFM 35-1 and effective the last day of this month, began over 18 months ago with the realization that new radar equipment in control towers, air traffic operations, and ground-control approach demanded a definition in skills between airmen using electronic equipment and those trained solely in manual operations.

Formerly the 272 career subdivision embraced three ladders: control tower, aircraft landing control, and air route and approach control. There was no distinction between manual and radar qualifications.

A single ladder has now been established for air traffic control. Through the five (operator) level, manual or radar qualifications will be denoted through shredouts, identified by A and B suffixes. There is no shredout for the 7-level and such supervisors have been undergoing cross-training during the past 18 months to qualify them in both manual and radar operations.

AACS, the responsible service, has kept a close watch on cross-training activity to insure that transition to a single ladder will be as smooth as possible.

Whistlin' Dixie

At Lackland AFB, Tex., three airmen do just that as they operate one of the world's smallest railroads, "The Gateway Cannonball Line." Their 45-ton switch engine draws an average of 100 box cars a month over two-and-a-half miles of on-base track and the five-mile spur line to Cadet Junction and connections with the Southern Pacific. A/2c J. D. Thompson, one of two engineers, sounds off for a base grade crossing.

Help Wanted

Have you ever used a parachute to get out of a sick airplane? Lived on fish and rainwater, snakes and snails, or any of the other horrible but practical things taught in survival manuals? Do you know anyone who has?

Have you ever been a member of a rescue team or know people who have done Air Rescue work? If your answer is "yes," you can help write a book.

Two USAF officers, Lt. Cols. C. V. Glines and Wendell Moseley, are preparing a new book on air rescue and they need material of this type. They want names, times, and places and are especially interested in improvisations and inventions mothered by necessity. The contact is Lt. Col. Wendell Moseley, Box 455, Albrook AFB, Canal Zone.

Bits of Blue

. . . A recent Hq USAF message advised all Air Force personnel with policies drawn on the Absolute Security Life Insurance Co. of Montgomery, Ala., to immediately request cash surrender and stop premium payments on such policies on the basis of information received from the Commissioner of Insurance of the State of Alabama. Requests should be made to Mr. Rufus King, Receiver, 57 Adams Ave., Montgomery.

. . . Lt. Bob Siteman, USAFA, Class of '59 has been named to the National Rifle Association's second team All-America. Selection was made by a board in Washington, D. C., from nominations submitted by the Nation's colleges and universities.

. . . Two air defense headquarters will go out of business in the near future. Present plans call for deactivation of the Eastern Air Defense Force on December 31. Early in 1960, Central Air Defense Force will follow suit.

. . . One of sport's true rarities is a hole-in-one. At Holloman AFB, N. Mex., Lt. Col. Cecil Bell and MSgt. Bob Vehmeier both turned the trick recently in the same afternoon. Colonel Bell's was on a 134-yard hole; Sergeant Vehmeier's on a 218-yarder.

. . . SAC's annual bombing, navigation, and refueling competition will be held October 26-31 this year. McCoy AFB, Fla., will be competition headquarters and play host to competing B-47 and B-52 aircraft. Homestead AFB, Fla., will be the KC-97/KC-135 host base.

. . . New and revised APTs will be available for selected ladders in several career fields by late fall and early spring testing periods. The fields include 30 (Radio-Radar Systems), 43 (Aircraft and Missile Maintenance), 53 (Metalworking), 72 (Information), and 92 (Aircrew Protection).

. . . Presidents of the 176 civilian institutions having AFROTC units have been invited to a meeting at the Air University, Maxwell AFB, Ala., early in December. Purpose of the gathering is to improve relations between USAF and the schools and to discuss current and future program developments.

. . . USAF, under provisions of a use agreement, will soon begin operating the John Moses Memorial VA Hospital at Minot, N. Dak. Primarily, the facility will serve as a base hospital for Minot AFB, but will also provide in-patient care for eligible veterans in the area on a reimbursable basis.

Stars and Stripes

Back in the very early 20s, an Infantry buck sergeant had to be pretty sharp in sizing up people, especially young officers.

Fred J. Christman of the 14th Infantry was one of the best and he employed his technique in Panama when a new First John reported to his outfit. Both the lieutenant and Sergeant Christman liked guns and hunting and soon became good friends.

Before transfer orders separated them in 1923, Christman predicted great things for the lieutenant — including an eventual star for his shoulder.

With nearly 48 years' active duty behind him, MSgt. Fred Christman retired in June at Francis E. Warren AFB, Wyo., the first USAF *Atlas* ICBM base to become operational. Just a month before retiring, he ran into his old friend again after 36 years. General Thomas D. White, now the four-starred Chief of Staff, was visiting Warren for the Armed Forces Day finals of the Air Force Worldwide Talent Contest.

Naturally, the two spent some time talking over the past, but mostly they talked about the new customized, high-powered hunting rifle Christman had bought to help him enjoy his retirement years.

You Ask It

Q. Under the provisions of a special AFROTC program of a couple of years ago, I accepted a regular commission. However, because of paperwork and several moves during my first months of active duty, the commission did not reach me immediately. Since accepting it, I have decided to resign and resume my education. How soon may I expect favorable action on such a request?

A. The basic criteria for resignation from USAF are contained in paragraph 5b(3), AFR 36-12. Once they have been met, an officer may normally expect favorable consideration of an unqualified tender of resignation. Instructions for preparing and forwarding the request are contained in the same regulation.

Air Age Library

Rockets and Missiles

Illustrated Guide to U. S. Missiles and Rockets, Stanley Ulanoff, (Doubleday, $3.95). An illustrated volume containing vital, up-to-date information on 65 basic missiles and rockets in use, or under test, by all of the military services.

Rocket Encyclopedia Illustrated, edited by John W. Herrick and Eric Burgess, (Aero Publishers, Inc., $12.50). A comprehensive, complete encyclopedia of facts and theory, development, principles, and progress. The volume contains biographies of leaders in the field, history of the program, and a multitude of additional information.

Related Reading

The Soviet Navy, edited by Comdr. M. G. Saunders, R. N., (Frederick Praeger, $7.50). Eighteen of the top military and naval authorities of 11 nations have pooled their expert knowledge of the Soviet Navy to produce an account of its present strength. Some of the Nation's leading reviewers have listed it as "must" reading.

Fiction

The Big X, Hank Searls, (Harper and Brothers, $3.50). A novel concerning the exploits of Mitch Westerly, test pilot for a commercial company producing military aircraft. The author adheres to realities of modern flight research, calling upon his personal experiences as a Navy pilot for much of the story's authenticity.

For the Teens

The Book of Missiles, Clive E. Davis, (Dodd, Mead and Co., $2.75). The author of other "Junior Airman" books has produced a new volume on the subject of missiles. Written by a layman, in language a layman can understand, it gives a clear, concise picture of America's missile program.

Paperbacks

Airmen's Songs, produced by the Squadron Officer School, Air University, Peragon Press.

Face of a Hero, Louis Falstein, Popular Library.

Satellites, Rockets, and Outer Space, Willy Ley, Signet Key.

Destination: Space, John L. Russell, Jr., Popular Mechanics.

The Damned Wear Wings, David Camerer, Crest Books.

Pork Chop Hill, S.L.A. Marshall, Pocket Books.

The Red Knight of Germany, Floyd Gibbons, Bantam.

Jet Pilot, Flint DuPre, Research Publishing.

the subject B-58 by the test pilots. In reality, the name was the brainchild of MSgt. Alexander Hydak of the B-58 Test Force at this station.

TSgt. James P. Carroll
Carswell AFB, Tex.

A bow in the direction of Sergeant Hydak.

Sir: *Many thanks for the article* "Bugger" to Ace *which appeared on page 35 of the April issue. However, inadvertently, an error crept in. You credit MSgt. J. B. Suggs and myself with the invention of this training aid while, in reality, it was the work of Capt. J. A. Daughtery of Sembach AB, Germany. We merely borrowed his idea and adapted it for our own use.*

Capt. Gregory A. Turner
APO 12, New York, N. Y.

And to Captain Daughtery, apologies from THE AIRMAN staff.

★ ★ ★

A FEW KIND WORDS

Sir: *The April issue was by far the best of your efforts to date. From cover to cover, the content was excellent. As usual, the writing is clear and simple, easy for all to understand. It can be truly said there was something for everyone, and your staff deserves to be congratulated.*

SSgt. Clayton Davis
Sheppard AFB, Tex.

Sir: *Allow me to express my pleasure with the article* A Heel and a Hero *by Lieutenant Burkett in the April issue. It was a fitting tribute to the men who are indispensable to our Air Force.*

Denis P. Watson
Milwaukee, Wis.

Sir: A Heel and a Hero *was one of the finest articles you have ever included in your fine magazine. It reminded me of my T. I., A/2C Wylieder, Flight 209, in February, 1957. His superlative self-discipline and outstanding character greatly impressed me and got me started on the right foot in the Air Force.*

A/2C Milt D. Ancevic
APO 132, New York, N. Y.

Sir: *I cannot tell you how pleased I was to see the article* Flight Engineer *in the May issue. My father is one of those great guys and, since entering the service myself, I have had the thrill of riding with him. I have been with him in the wee hours of the morning when he would give the "bird" its final check long before the rest of the crew arrived for the flight. I know how much a good engineer means to the other crewmembers. You did an excellent job of enlightening people of their importance and you deserve a medal for it. For both my dad and myself, thank you.*

A/3C Virginia I. Hurley
Keesler AFB, Miss.

★ ★ ★

MISSING CUT

Sir: *On page 32 of the May issue, under the title* Illegal Miniatures, *you described the pendant for the new Air Force Commendation Medal. The article ended, "When ready, it will be readily recognizable by the USAF Coat of Arms embossed on the front. (See cut.)" What happened to the cut?*

Lt. Col. Uriel P. d'Acosta
Hill AFB, Utah

Here it is! (See cut.) But in case we forget again, see page 32, June '58 issue.

★ ★ ★

WHOOPS!

Sir: *The article* High Flight *in the May issue was excellent, but I detected what I believe to be an error in the photo on page 9. Having just left an F-100 outfit, I think I am correct when I say that the refueling boom is on the right side, not the left, as shown.*

A/1C H. T. Schnelle
Oxnard AFB, Calif.

Reader Schnelle is correct. The photo came to us from an outside source and apparently the negative was reversed in printing. The mistake was blithely passed over by the staff.

★ ★ ★

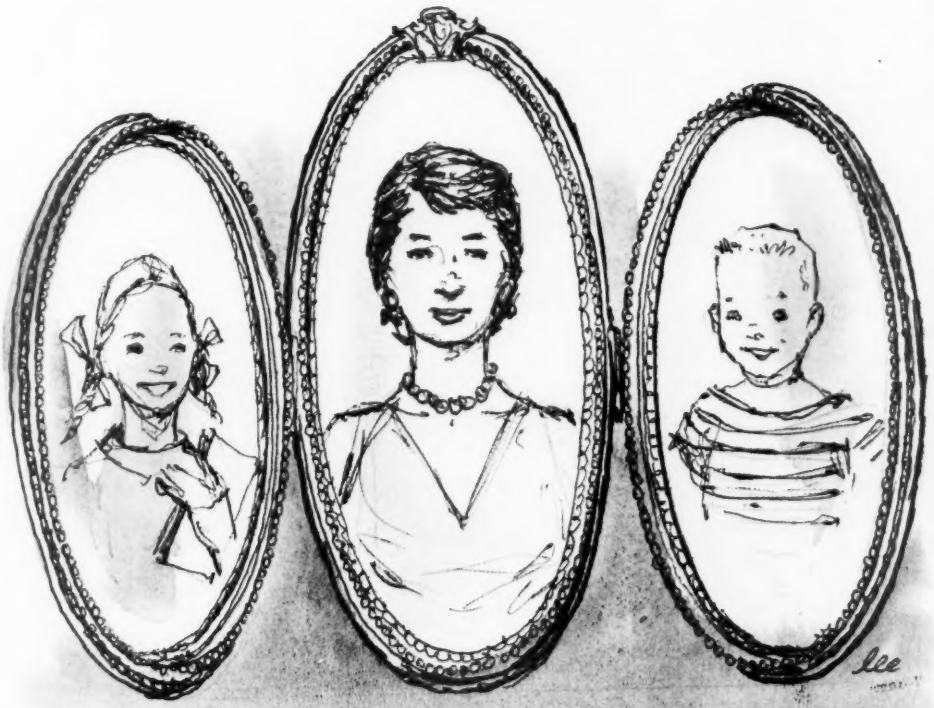
QUOTE

Sir: *Is the quotation on the back cover of the May issue a paraphrase of the famous words of John Philpot Curran? If so, I think the exact quotation reads, "The condition upon which God hath given liberty to man is eternal vigilance; which condition if he break, servitude is at once the consequence of his crime, and the punishment of his guilt." I believe the actual quotation would have been more adequate in view of the Communist threat.*

Chaplain (Capt.) John R. Ellis, Jr.
Cannon AFB, N. Mex.

Chaplain Ellis is correct in assuming the quote was a paraphrase of the lines he cited. In Bartlett's *Familiar Quotations*, a footnote explains that the shortened version is the one "commonly quoted." Hoyt's *New Encyclopedia of Practical Quotations* lists the shortened version, attributing it to Curran in 1808.

by MSgt. John J. Calvarese
Randolph AFB



YOUR RETIREMENT ESTATE

ONE of the most important and least understood laws is the Uniformed Services Contingency Option Act of 1953 (USCOA). Simply stated, this is a plan whereby a retired serviceman can buy an "annuity" to take care of his dependents after his death. He does this by electing to take a reduced retirement pay during his lifetime. (In effect his USCOA or "annuity" cost is deducted from his retirement pay.)

Although the election to participate may be made at any time, such election, or declination, must be made no later than the completion of the 18th year of service which is creditable in the computation of basic pay. There is no advantage, however, to making an election earlier than the start of the 18th year, since the hasty election of a USCOA plan may prove costly to the member concerned. All areas should be studied by the member before initial election is made. At this writing, it has been reported that the Department of Defense has proposed legislation to liberalize the election period.

USCOA is desirably being widely publicized these days as a consequence of the increasing numbers of personnel, World War II vintage, who will soon be completing their 17th and 18th years of service.

Why USCOA?

It is first necessary to understand that Survivor Benefits are derived from death of the service member occurring on active duty (unless death can be established as being service-connected). Only the Social Security

benefits are carried over to retirement. Thus, a person retiring for length of service leaves no income to a widow and children except for Social Security, life insurance, and investments. It is into this void that USCOA steps.

The act provides four plans by which a member may provide for his dependents if he dies during retirement. These plans, or options, are:

Option 1. Leave either ⅛, ¼, or ½ of his retired pay (after USCOA deduction) to a widow for life or until remarriage.

Option 2. Leave ⅛, ¼, or ½ of his reduced retired pay to children (share and share alike) to age 18.

Option 3. Leave ⅛, ¼, or ½ of his reduced retired pay to wife and/or children. This means that a widow would draw the percentage selected, but if she died or remarried, the children would receive the amount until they reached the age of 18.

Option 4. This is a savings clause and can be combined with Options 1, 2, or 3. Without Option 4, which is called the "Restoration Option," the deductions continue for life even if the eligible beneficiaries die or become ineligible. This option means simply: If the children reach 18 and/or the wife dies or there is no longer an eligible beneficiary, retirement pay is restored immediately to the full amount the retired person would have been receiving had he not selected USCOA to begin with..

Let's Assume

Now let's contrive certain events to see what happens under various situations.

A master sergeant decides to retire with 20 years of active service. He is 39 years old, his wife is 36, and they have two children, 4 and 7. His retired pay would be 50 percent of $350.00 or $175.00 per month. Retired pay, before annuity deduction, is subject to withholding of income tax. However, with four exemptions, income tax deductions would not apply in the sergeant's case. (We'll keep it simple by rendering sarge idle for awhile.) But when his monthly retirement checks begin arriving, he finds them to be for only $160.65. How come?

Well, prior to completion of his 18th year of service, the sergeant had elected to set up a deferred annuity for his family under USCOA, and he had selected Options 3 and 4, for ½ of his reduced retired pay to his survivors. The amount to be taken from his retired pay (based on age at retirement, age of wife, and age of youngest child under 18 years) is approximately 8.20 percent, or $14.35 per month. Now, $14.35 out of $175.00 is $160.65. So far, so good—we're gathering impetus.

Let's say the sergeant dies after two years. His widow would be 38 years of age, and his children would be 6 and 9. His wife would receive one-half of $160.65 or $80.32 per month until she dies or remarries. Assume the widow remarries or dies two years after her husband's death. The children would then be 8 and 11. They would be paid the $80.32 monthly, divided equally between them, until the eldest is 18, and then the youngest would be paid $80.32 monthly until 18.

What happens if the sergeant dies 15 years after he retires? The children would not be eligible to receive anything, regardless of the status of the widow, since they have passed their 18th birthday. The widow would receive $80.32 per month as long as she lived, or until she remarried.

Next suppose the sergeant does not die, but his wife dies four years after he retires. The children would then be 8 and 11. The reduced retired pay would continue 10 more years, until the youngest child is 18, then the full amount of retired pay ($175.00) would be restored.

Let's assume the sergeant does not die, but his wife dies 15 years after his retirement. Both children have passed 18 years of age. Then the sergeant's pay would be restored immediately to $175.00 per month.

Since women live five to seven years longer than men, there is a good chance the sergeant's wife will outlive him. The sergeant would be expected to live to age 70. His wife could be expected to live to age 79, or nine years longer than the sergeant. Assuming the sergeant lived to age 70, he would pay into USCOA $14.35 per month for 31 years which is $5,338.20. His widow would receive $80.32 per month for nine years which is $8,674.56. This, of course, is based on the assumption both parties live to their normal life expectancy. Since people do not always live to their normal life expectancy, assume the sergeant dies at age 52 and his widow dies at age 67. The sergeant would have paid into USCOA $14.35 per month for 13 years which is $2,238.60. His wife would receive $80.32 per month for 15 years which is $14,457.60. It is certainly possible that the sergeant may live to age 70 and his widow die the following year. This means he would have paid into USCOA considerably more than his widow would receive.

Pick a Number

USCOA permits election of Option 1 (wife), Option 2 (child), Option 3 (family group), Options 1 and 2, and the combination of any one of these selections with Option 4. However, if Options 1 and 2 are elected, with or without the provision of Option 4, the combined amount of the annuities may not exceed half of the reduced retired pay. A combination of Options 1 and 3 or Options 2 and 3 may not be elected since they are prohibited by law. For families in which the dependent wife and a child or children are living in separate households, Options 1 and 2, with or without the provision of Option 4, might prove more desirable than Option 3. The inclusion of Option 4 in a USCOA election is indeed a savings clause, even though its embodiment slightly increases the amount to be taken out of retired pay. Such increase is considered truly infinitesimal because without Option 4, the member's reduction of retired pay would remain in effect until his death, even though there are no eligible annuitants. In other words, regardless of the ineligibility of his beneficiaries through legal separation; annulment or divorce; death of the wife; upon children reaching 18 years of age; or the marriage or death of children; he

would still be required to pay into USCOA for as long as he lived. This provision is an irrevocable idiosyncrasy cranked into the act.

Seek Counsel

Many personnel who were eligible to select an option when the act went into effect on November 1, 1953, declined because they, and often personnel detailed to explain the provisions of USCOA although dedicated to the task, were not sufficiently familiar with the then freshly inked and not easily understood legislative package. Today there are doubtless a considerable number of these and subsequent non-selectees who are highly miffed for missing out on what they know now to be a "good deal."

As personnel become eligible to participate in USCOA, they either elect an option or options or decline election on AF Form 806, "Election of Options Under USCOA." Election is purely on a voluntary basis, after personalized counseling from responsible officers. Although today's counseling is for the most part efficient and geared to provide positive direction and intelligent response, eligible members are also encouraged to seek guidance from the Staff Judge Advocate or Legal Assistance Officer before executing AF Form 806. Eligible members should also be sure that they receive a personal copy of AFP 34-4-6. It will make their decision much easier and also will aid them in years to come.

Personnel seeking participation in USCOA should be initially advised that the law also provides that the terms of the election may be modified or revoked by a member at any time before his retirement. The following main points should be stressed in this regard:

Any person who revokes (cancels) his plan is ineligible to participate in it again.

Any cancellation by a person on active duty *will not* go into effect if the member is retired within five years of the time he revokes the plan. A change of options is not effective until five years after the member on active duty has signified that he wants the change.

Once a member is retired, his election is with him for life. It cannot be changed or revoked, nor can the beneficiaries be changed. Dependents acquired after retirement are not eligible to receive benefits under USCOA.

Summing up, based on mortality experience, statistics, percentage of money withheld from retirement pay and all other factors, USCOA is considered a sound form of "estate planning," a prime responsibility inherent with each family head.

All responsible personnel should be beefed up sufficiently on AFR 34-63 and AFP 34-4-6, regulatory and information sources for USCOA, to give eligible members the best possible picture of how the act will work for them.

Shooting the Breeze

Changing Times

Restricted lists of foods for the space traveler haven't been published yet, but it seems a fair assumption that they will carry a rather limited selection. The assumption is based on a copy of a 1943 Air Surgeon General's report:

"Drinking of fluids before flights exceeding 10,000 feet, as well as during such flights, should be greatly restricted. In meals eaten shortly before or during flights to high altitudes, the following foods should be avoided:

"Carbonated beverages; all fried foods or foods with crusted surfaces; fat meats such as pork or other foods mixed with fat; fresh bread, rolls, or cake; navy beans, dried beans, peas, and lentils; raw vegetables, especially onions, cabbage, and turnips; dried and raw fruits, except strained orange juice, grapefruit juice, and bananas."

Air Force, Feb. '43

Trick Shots

Nobody likes to be needled, especially by a medic's hypodermic, even though it's loaded with misery-saving influenza serum. Last fall, during the influenza innoculation season at Montauk Air Force Station on Long Island, not a soul showed up at the dispensary for shots despite repeated notices in the daily bulletin and appeals over the station public address system.

Then the first sergeant, a tactful veteran of 16 years' service, had a brainstorm. He picked up the PA system microphone and announced:

"Free shots at the NCO-Airmen's Club for all personnel."

Response was immediate with a major leading the throng.

SSgt. H. T. Serres

Rough Practice

Just 17 years ago Alaska, now our 49th state, was a theater of war. Japanese fighters, raiding Dutch Harbor in June, 1942, were intercepted by our fighters, patrolling from an advanced Aleutian base.

Meanwhile, the unsuspecting pilot of a cargo-laden *Gooney Bird* (C-47), engrossed with landing into the tricky Aleutian winds, gave the dog-fighting planes only casual interest until he taxied in and cut his engines. Then he leaned over to his copilot, pointed to the darting fighters above them and commented: "Those boys sure do play hard, don't they?"

"Yeah," the copilot grinned back. "If they don't look out somebody's going to get hurt practicing that way."

A moment later they froze in their seats. One of the "boys" spun down—obviously hurt. Their jaws dropped in unison as the falling fighter, a rising sun insignia setting fast in the west, crashed in flames a short distance off the runway.

Air Force, Dec. '42

Proof

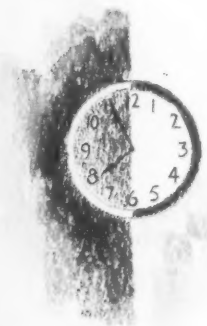
The above incident was reported in the first issue of *Air Force*, Official Service Journal of the USAAF, which superseded the *Air Force News Letter*, and preceded The Airman. The security poster back cover pictured a uniformed, and talkative, hitch-hiker. "Don't pay for your ride with careless talk," the poster cautioned. "When you open the door—shut your mouth."

Calling attention to the back cover, an item on page two told of the airman who had reported the loss of 16 teeth—his false uppers—following a hitch-hiked ride back to the base.

CONAC, and members of the Air Force's Reserve components, know that modern war allows

NO TIME TO TRAIN

by Capt. Ted R. Sturm, USAF (Ret.)



There's but the twinkling of a star
Between a man of peace and war.
—BUTLER, in *Hudibras*

"In the center of the city," your boss says, "are the remains of a big machine that blew up. Go rebuild it."

"Okay," you say. "Where are my machinists and engineers, and hundreds of skilled workers?"

"Sorry. The few machinists and engineers left are busy on a more important machine that must be finished before it is needed. Your machine is to augment the first one."

"Well then, give me the plans and I'll do my best."

"There are no plans. You must draw your own."

"Oh," you mutter, "but surely you can tell me something of how the machine should look."

"It must look like the important machine, but I can't even tell you how *it* will look. It is being changed every day. New materials are coming out and must be used. Sometimes the builders even change the design to accommodate new products."

You start to leave, but your boss calls you back. "Incidentally," he says, "there are people living in the debris. Try not to disturb them."

You start to work, basing your plans on a nebulous, obscure tomorrow, derived from what you believe about a wavering, shifting today. When you are half finished, another explosion blasts your machine apart again.

"Start all over," says the boss.

Essentially, this happened to a major USAF command called CONAC. Its full name is the Continental Air Command and in 1948 from Mitchel AFB, N. Y., it began to reconstruct the major part of the disintegrated might of an Air Force that had only recently prostrated the Axis powers. Scattered throughout the Nation by the explosion called demobilization, many of the trained and experienced men of the once mammoth Air Force were listed as reservists. But they were reservists in name only—and known by name only.

When the boss said "build the program" there were no definite plans. The Air Force was but a yearling and had little experience with reserve components. It could draw only on the plans and concepts of the Army and Navy—difficult to adapt and unsuitable to modern airpower for the same reasons that the Air Force became a separate branch.

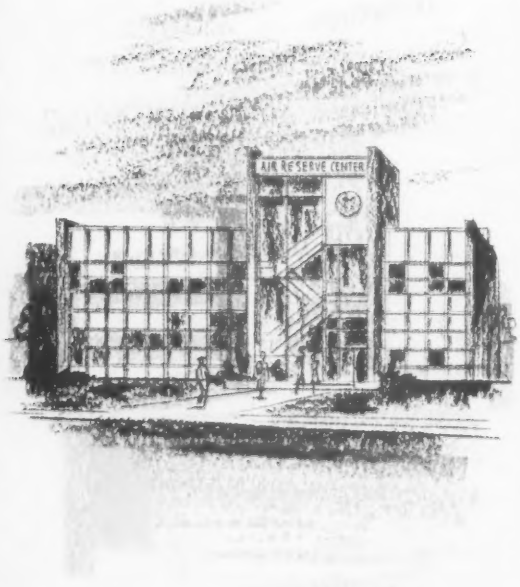
The only materials available were obsolescent aircraft and equipment left over from World War II. The "machinists and engineers"—skilled Air Force professionals—were busy building the other, more important "machine"—an operational Air Force undergoing a chaotic upheaval

PROGRAM ELEMENTS OF THE AIR FORCE RESERVE

READY RESERVE (WAR REQUIREMENTS) (SEE AFR 45-3 and 45-33)

Program Element	Tng Cat	Pay Group	Aval Code	Status	Asgd to	Inactive Dy Tng by
Air Res Wgs and Sep Units	A	A	AA	Ready	ConAC	ConAC
Air Res Wgs and Sep Units	A	A	AA	Ready	ConAC	ConAC
Air Res Wgs and Sep Units	G	None	AA	Ready	ConAC	None
Mobili-zation Asgmt Res Sec	A	A	AA	Ready	Major Air Command	ConAC
Mobili-zation Asgmt Res Sec	A	A	AA	Ready	Major Air Command	Major Air Command
Mobili-zation Asgmt Res Sec	A	B	AA	Ready	Major Air Command	ConAC
Mobili-zation Asgmt Res Sec	B	B	AA	Ready	Major Air Command	Major Air Command
Mobili-zation Asgmt Res Sec	B	B	AA	Ready	Major Air Command	ConAC
Mobili-zation Asgmt Res Sec	B	C	AA	Ready	Major Air Command	ConAC
Mobili-zation Asgmt Res Sec	B	D	AA	Ready	Maj Air Command	ConAC
Mobili-zation Asgmt Res Sec	D	D	AA	Ready	Maj Air Command	None Required
Mobili-zation Asgmt Res Sec	G	None	AA	Ready	Maj Air Command	None
Mobili-zation Asgmt Res Sec	H	E	AA	Ready	Maj Air Command	None Required
*Mobili-zation Asgmt Res Sec	None	F	AA	Ready	ConAC	None
Ineligible Reserve Section (IRS)	G	None	None	Ready	ConAC	None

*Authorized only for personnel in the "six months active duty for Training Program" as outlined in AFR 45-33.
**Does not include pay for additional flying training periods, School tours, Special tours, etc.



from technological progress and the gathering clouds of Communist ambition.

There were people in the Reserve debris. People who didn't want to think of war, or military training. People who figured that being in the Reserves was simply a matter of keeping their names, grades, and serial numbers where Washington could find them . . . *if,* and it was a king-sized *if,* it needed them.

The boss was right when he said, "Don't disturb them," but though devoutly wished it was a desire impossible to fulfill because Korea, the second explosion, again blew the machine apart.

Those days were dark for reservists who were about as disturbed as people can get. In mobilizing 25 Reserve Wings, 22 Air National Guard Wings and an additional 118,000 individual recalls to meet the Korean emergency, there occurred casualties from which the Reserve program is still recovering.

Reconstruction was not a simple matter. The embryonic, pre-Korea units were broken up and the forces themselves severely disorganized. Plans and policies came first but there had evolved certain principles which, when incorporated into the "new" Reserve structure provided an organization designed to meet current and anticipated conditions rather than the obsolete war requirements of the past.

Ready Now

Korea was perhaps the last conventional war. Excluding limited wars, it can be said with certainty that no future global conflict will be fought on conventional concepts. Supersonic flight, guided missiles, and nuclear weapons eradicated the time-honored strategy of *hold, build-up,* and

exploit. To reservists, this is of the utmost importance. It means there will not be one or two years' training time to prepare them for combat.

". . . a few days, two or three to four, will conclude the decisive phase of a nuclear war," General Thomas D. White told a Senate Preparedness Committee.

Obviously the Reserves, to be worth anything at all to the defense of the United States, must be *Ready Now*—today, tomorrow, and for the interminable future. Are they?

Although General White made his statement only a few weeks ago, he and top Air Force planners have been working from this concept for several years. *Ready Now* evolves from the need for instantaneous reaction by reservists to meet the conditions implied by General White's remarks. Since Korea, CONAC, with multifarious missions, concentrates its main efforts on the accomplishment of two major objectives: the administration, logistical support, and training of the Air Force Reserve, and the supervision of the training and inspection of Air National Guard units.

Under the *Ready Now* doctrine, *Reserve Forces* is actually an antiquated appellation. The wings of the Air National Guard and the units and individuals of the Air Force Reserve are as much a force in-being as the regular establishment.

Of the half million reservists comprising the Reserve components today, approximately 200,000 are in the Ready Reserve. More than 100,000 of these Ready Reservists are assigned to various organized Reserve units, while the balance have individual Mobilization Day assignments. It is the entire Ready Reserve that proudly meets the responsibilities inherent in the *Ready Now* principle of Lt. Gen. William E. Hall, CONAC commander.

TRAINING CATEGORIES
(See AFR 45-5)

TRAINING CATEGORY	Annual number of periods of inactive duty training	Annual number of days of active duty for training	PAY GROUP
A	48	15 days	A
B	24	15 days	B
C (Not used by AF)	12	15 days	C
D	0	15 days	D
E	12	0	E
F	Correspondence Courses		F
G	No Training		
H	0	30 days	

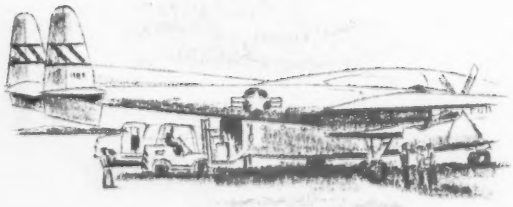
What is the Ready Reserve? Essentially it is that group which will meet the Reserve Forces Personnel War Requirements as defined by AFR 45-3.

These requirements are the positions to be manned by Reserve personnel in the event of war or national emergency. The requirements apply only to positions exceeding the peacetime active force. They are divided into the requirements for *units* authorized by manning documents and the requirements for *individuals*—the mobilization assignees of the Air Force Reserve. The M-Day assignees are further categorized in three parts:

Part I includes those individuals who are procured, trained, and administered by the major air command to which they would be assigned on M-Day.

Part II includes individuals assigned to a particular major air command and receiving inactive duty training through CONAC.

Part III includes personnel to be used for attrition replacement purposes, overseas medical positions, and special requirements for Hq, USAF. These people are administered and trained by CONAC, except that annual active-duty tours are performed at the nearest Air Force bases or activities having the capability to provide training in the person's assigned AFSC.



From this broad frame of reference, which constitutes the heart of the Reserve program today, emerge units and individuals designated as being in *Training Category A*. This innocuous designation is pretty important. Training Category A units are those organized to serve as units in the event of mobilization and are manned entirely by Air Force Reservists not on extended active duty. It also includes certain AFRes organizations not organized to serve as units upon mobilization, but whose members are administered as a unit.

(The numerous training categories, along with pay data, are included in the accompanying charts.)

This Category A group thus includes the organized, ready units which would respond immediately in the event of war. They include 15 Troop Carrier Wings, five Air Rescue Squadrons, six Aerial Port Squadrons, 24 AACS units, 13 Air Terminal Squadrons, 18 Navigator Squadrons, and 10 hospital units. Some of the organizations have been honed to such a fine edge they would be able to spring into action three hours after notification.

Airlift Mission

Primary mission of the Air Force Reserve unit program is airlift, and by early this year several hundred Reserve troop carrier aircrews were operational ready. Additional hundreds were airlift ready—that is, capable of point-to-point airlift of cargo and personnel.

This accomplishment is a tribute to CONAC's positive approach to training, i.e., training toward a definite objective to be achieved within a stated time period. Today CONAC "owns" more than 10 times as many C-119s as were possessed just a little more than two years ago. Already the Air Force Reserve has flown hundreds of thousands of hours in the C-119 with an exceptionally low accident rate that compares favorably with the latest available active-duty Air Force C-119 rate.

CONAC's "new look" training program gives each troop carrier unit commander a specific operational objective which must be attained by a specific time. Thus maximum use must be made of training resources.

At the completion of the transition period, the unit commander is expected to have 10 aircrews completely checked out and capable of point-to-point airlift of cargo and personnel. These crews then can participate in live workload missions such as Operations Swiftlift and Ready Swap. Meanwhile, training continues in more difficult phases, toward the attainment of troop carrier operational readiness. Formation flying, troop and equipment drops, corridor operations (as in the Berlin airlift), and overwater flights are prerequisite to operational readiness.

Assignment of definite training objectives is one of the important reasons for attainment of the Ready Now status. Units have responded to the challenge laid down by CONAC to such a degree that all objectives have been significantly exceeded. The goal set for the "weekend warriors" serves as an inspiration and adds the incentive needed for the greater effort. Reservists understand the reasons and the need.

The value of this positive approach is readily apparent. In war planning, for instance, CONAC's commander can commit in advance, certain Reserve troop carrier units to be included in Tactical Air Command war plans. In fact, the majority of the Reserve troop carrier squadrons are currently committed to significant missions in TAC's war plans.

It is noteworthy that the turbulent history of numerous changes in the Reserve program, changes in missions, and aircraft conversions contributed for a long time to a feeling that the Reserve flying units were ineffective.

Now, however, with a firm program of 15 troop carrier wings (45 squadrons) actively engaged in live workload peacetime missions and trained for wartime tasks, experienced crews of the Air Force Reserve repeatedly demonstrate their capability to work effectively alongside active Air Force units.

Training Centers

At the primary operating level throughout CONAC's three air forces, the First, Tenth and Fourteenth, are the Air Reserve Centers. There are two main types—Air Reserve Flying Centers which support Category A Reserve units and monitor the activities of each of the Air Reserve's troop carrier wings, and Air Reserve Centers which support the individual training program. In the Air Reserve Centers, located in over 1,200 cities and towns throughout the Nation, classes assemble for training at regularly scheduled intervals.

In the larger cities, CONAC has established organizations known as numbered Air Reserve Centers. It is the mission of these organizations to provide specialized training as well as administrative supervision and support for nonflying Air Reserve units, and to discharge certain field responsibilities of the CONAC air force commanders. Designed to be the focal point of Reserve activity in their respective areas, there are now 82 such centers in operation.

Standby?

But what of the more than 300,000 people in the Standby Reserve? Could they be processed into the Regular slots in time to be effective during the initial phase of a third World War? Probably not, and this is one of CONAC's major problems: How to fully utilize this vast pool of experienced manpower.

At the present time, these individuals remain current through training programs conducted by the many Reserve training centers, and by voluntary enrollment in correspondence courses of ECI. But they lack the incentive of a goal or mission such as that which motivates the

STANDBY RESERVE (AFR 45-19)

Center Standby	E	None	Any	Standby	ConAC	ConAC
Non-Affiliated Reserve Sec. (NARS)	F	None	Any	Standby	ConAC	ConAC

members of the Ready Reserve. And they realize that in the initial stages of nuclear war, they will not have an assigned task.

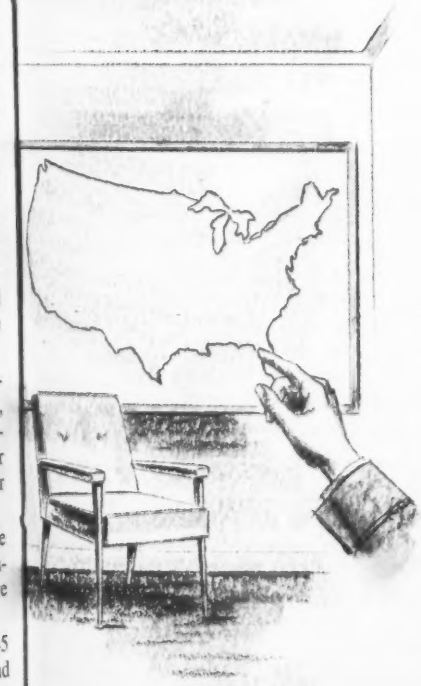
There is, however, a definite plan prepared by CONAC and presently under consideration at USAF headquarters. The plan, although not evolving from the specific problem of utilizing more reservists, nonetheless dovetails with this need, and if adopted, would find ready-made tasks for many Standby Reservists the instant war broke out.

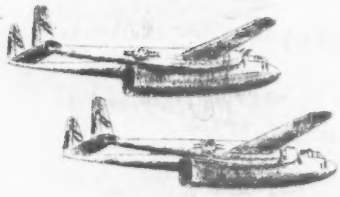
General Hall has said: "General war would almost certainly bring about a massive exchange of nucelar weapons. This would inevitably disrupt transportation systems and communications facilities on a wide scale in our own country and elsewhere."

A colonel at CONAC headquarters had this in mind when he commented on the new plan which essentially assumes that many military air bases and civilian airports would be destroyed or rendered useless during the initial phase of a major war. This would of course require the use of improvised or adopted airfield facilities, military and civilian, which lack support capabilities.

"It's the first few days *after* the initial exchange of blows that I'm concerned about," he emphasized as he leaned toward a huge map of the United States. "Nuclear strikes throughout the country could result in utter chaos, and would require an immediate and major readjustment, involving not only a reshuffling of disaster equipment, but a major logistics problem to provide support for our own returning aircrews. We are not, as of now, completely prepared to handle this."

He waved a hand that took in the entire United States. Anyone who saw the Battle of Britain would immediately and emphatically agree with him.





In principle, he was relating the Nation to a situation that confronted many WW II Navy fighter pilots who returned from strikes to find their carrier burning or sinking. As they buzzed around hopelessly, their deadly machines of war became simple vehicles for transportation to nowhere. If the pilot survived his bailout or water landing, he could usually get another plane and another carrier and fight again.

But if the returning crews of SAC, TAC, and ADC find their national carrier burning there would be no time for new machines. Not in an all-out global nuclear war.

This is what worried the colonel. "Our plan, though," he explained, "would allow all USAF aircraft, particularlly those of ADC and SAC, to gain flexibility in reemployment."

The main objective of the plan is the effective utilization of existing Reserve resources throughout the Zone of Interior to provide for military aircraft an immediate limited support capability at operating civil airports and/or standby civil or military airports.

It would be accomplished by a nucleous of trained reservists capable of organizing the maximum inherent support resources of the local community to expedite the militarization of airports, if required by the destruction of primary military bases. By utilizing small groups of reservists residing near suitable airports, control teams could be organized to provide three vital elements: (1) Emergency recovery and dispersal support to military aircraft; (2) Key cadre personnel upon which military support units could be formed to meet the requirements of expanded military air operations; and (3) An increased ability to support emergency logistics operations such as materiel pick-up, industrial support, air evacuation in domestic emergency situations, and to facilitate utilization of civil aircraft for military purposes.

It is readily discernible that Reserve forces, already strategically deployed, adequately housed and completely familiar with their individual areas, could easily handle the program. And thanks to another of CONAC's agencies, the Air Reserve Records Center in Denver, Colo., the complete data on every air reservist in the United States is immediately available.

In Civil Defense

Another area where standby reservists could be more fully used is in the vast national network of Civil Defense. Although many reservists are associated with Civil Defense on a par with regular civilian members, CONAC officials believe that their Air Force training, combat experience, and knowledge of the operations and problems inherent in air defense activities are readily adaptable to Civil Defense functions.

Air Defense encompasses a great deal more than detecting, intercepting, identifying, and destroying attacking air forces. It includes the expeditious recovery of vital areas which are hit by bombers; training and education of the general population, and vast readjustments of all war-making facilities. Reservists who want to contribute more to their country than they are able to in nonaffiliated Reserve status, might well become more active in the Civil Defense organizations of the Nation.

Stability for CONAC

General Hall feels that the present Reserve structure has now become as stabilized as it possibly can in an era of constant change. In this day and age, nothing in modern defense is static, and those changes which require readjustments in the Regular Air Force will likewise call for alterations in the Reserve structure.

But the concepts are proven, the program flexible, and the needs of the age clear cut. CONAC can look ahead, confident that the Reserve components of the United States Air Force will, as reservists have all through history, capably accomplish any mission their country sets before them.

BASELINE USAF

THE FLEET'S IN

Offutt AFB, Nebr.—Comdr. Charles H. Carr, Naval liaison officer at SAC headquarters here, recently became the first Navy pilot to check out in a Boeing B-52 bomber.

The feat was accomplished while Commander Carr was attending SAC's senior officer familiarization course at Castle AFB, Calif. Earlier this year he also checked out in the Boeing B-47 at Whiteman AFB, Mo.

SAC officials believe him to be the only Navy officer qualified in both of these giant bombers.

REWARDING SWIM

Portland International Airport, Ore.—Two members of this station's 337th Fighter Group rescue detachment, Lt. Arthur J. Bennett and SSgt. Richard L. Grigsby, have received the Soldier's Medal for their part in the recent rescue of a construction worker.

Last fall, five men were dumped into the Lewis River when a steel beam which they were riding slipped at the Swift Dam construction site. Three were rescued immediately, one was swept to death and a fifth gained the safety of a ledge 1,000 feet from the mouth of a diversion tunnel.

The two airmen responded to a special emergency call and attempted to reach the stranded worker by means of a liferaft. However, the raft capsized shortly after entering the tunnel, sweeping both men through. Their experience convinced the stranded worker that this was a feasible means of escape, and he dropped into the water and followed them to safety.

Authorities generally agree that the courage of this pair, beyond the line of normal duty, was the determining factor in saving the workman's life.

FIRST 1,000-HOUR MAN

RAF Station Sculthorpe, England—Capt. Jack R. McClenny, a veteran pilot of this station's 84th Bomb Squadron, recently became USAF's first 1,000-hour man in the Douglas B-66 Destroyer.

Officials of the 47th Bomb Wing, parent tactical organization here, were on hand along with a nine-man air police honor guard, McClenny's family, and several squadron members to greet the captain when he returned from the flight which put him over the mark.

In recognition of his accomplishment, he was presented with a chrome desk model of the aircraft and a special certificate from Douglas Aircraft, builder of the speedy bomber.

POET'S CORNER

Youngstown Municipal Airport, Ohio—"With pen in hand—he wrote this ode—it won five bucks—when seen on road."

Publication of this verse kicked off a safety jingle contest as part of a 79th Fighter Group (Air Defense) base ground safety campaign at this station.

Accepted classics will be utilized on two sets of advertising-type signs, reminiscent of a familiar commercial advertising campaign, which will be placed along the main highway leading to the base. Authors of these gems will receive $5 for each accepted jingle.

Going Home

Weary warriors, mission done
Now swiftly homeward bound;
Exhaling contrails in the sun,
The breath of freedom's sound.

—T. R. STURM